

ENERGY EFFICIENCY COMMITTEE WORKSHOP  
BEFORE THE  
CALIFORNIA ENERGY RESOURCES CONSERVATION  
AND DEVELOPMENT COMMISSION

In the Matter of:	)	
	)	
Hearing Regarding Proposed	)	Docket Nos.
Regulations and Draft	)	08-AAER-1A
Environmental Impact Report	)	08-AAER-1B
for Lighting Efficiency	)	
Standards	)	
_____	)	

CALIFORNIA ENERGY COMMISSION  
HEARING ROOM A  
1516 NINTH STREET  
SACRAMENTO, CALIFORNIA

WEDNESDAY, SEPTEMBER 17, 2008

9:00 A.M.

Reported by:  
Ramona Cota  
Contract Number: 150-07-001

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

COMMISSIONERS PRESENT

Arthur H. Rosenfeld, Presiding Member

Jackalyne Pfannenstiel, Associate Member

ADVISORS PRESENT

Ivin Rhyne

Tim Tutt

STAFF PRESENT

Betty Chrisman

Gary Flamm

Melinda Merritt

G. William "Bill" Pennington

Ken Rider

Harinder Singh

Bill Staack

Peter Strait

OTHER PRESENTERS

Gary Fernstrom, Pacific Gas and Electric Company  
(PG&E)

Dr. Paul Bendt, Ecos Consulting

Leo Rainer, Davis Energy Group

Steve Nadel, American Council for an Energy  
Efficient Economy (ACEEE) (via telephone)

Amanda Stevens, Energy Solutions

Ted Pope, Energy Solutions

ALSO PRESENT

Dain M. Hansen, National Electronics Manufacturers Association (NEMA)

Andre Algazi, State of California, Department of Toxic Substance Control

Larry Albert, Black & Decker, representing Power Tool Institute (via telephone)

Jean Baronas, Sony Electronics, Inc. (via telephone)

Wayne E. Morris, Association of Home Appliance Manufacturers (via telephone)

Celia Hugueley, Oasis Pool Service and Independent Pool and Spa Service Association (IPSSA)

Bob Nichols, Independent Pool and Spa Service Association (IPSSA)

Mike Gardner, Mike Gardner Pools and Independent Pool and Spa Service Association (IPSSA)

Cheryl English, Acuity Brands Lighting and National Electronics Manufacturers Association (NEMA)

John Green, Cooper Lighting and National Electronics Manufacturers Association (NEMA)

Clark Linstone, Lamps Plus representing American Lighting Association (ALA)

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## P R O C E E D I N G S

9:00 a.m.

PRESIDING MEMBER ROSENFELD: Good morning. Welcome to the 2008 Title 24 Rulemaking Phase I.

I am Art Rosenfeld. Chairman Pfannenstiel, who is to my left, and I have done a little trading of committee assignments recently. So you have the same team you are used to except this time I am chairing and Commissioner Pfannenstiel is number two. But we will both be very interested in what is going on today.

This is Phase I. Sometime later on this year we hope to get to Phase II, which has to do with TVs, and eventually Phase III, which is other things not even scheduled.

I think with that I will again look at Chairman Pfannenstiel and say welcome and ask you if you have anything to say.

ASSOCIATE MEMBER PFANNENSTIEL: Just welcome. We have a full day ahead of us with an agenda covering several subjects. So I think we will hand it over to staff.

PRESIDING MEMBER ROSENFELD: Well no, I need to make one other introduction. My faithful

1       advisor, John Wilson, has gone on to work for the  
2       Energy Foundation and is replaced with David  
3       Hungerford, who can't be here today. My second  
4       advisor, Ivin Rhyne is on my right. I'm sure Tim  
5       Tutt will be here. That's Chairman Pfannenstiel's  
6       advisor, whom you all know well.

7               Okay, now it's to staff. Melinda, are  
8       you going to run us through this?

9               MS. MERRITT: Yes.

10              PRESIDING MEMBER ROSENFELD: Melinda  
11       Merritt.

12              MS. MERRITT: I will start things off.  
13       Good morning, everyone. I am Melinda Merritt with  
14       the Energy Commission's Appliance Efficiency  
15       Program and the project manager for the 2008  
16       appliance efficiency rulemaking.

17              First, as usual, I need to go over some  
18       building logistics and safety information so bear  
19       with me. For those of you not familiar with the  
20       building, the closest restrooms are located out  
21       the doors of the hearing room to the left. There  
22       is a snack bar on the second floor under the white  
23       awning.

24              (Whereupon, Advisor Tutt joined the  
25       Commissioners at the dais.)

1           Lastly, in the event of an emergency and  
2           the building is evacuated please follow our  
3           employees to the appropriate exits. We will  
4           reconvene at Roosevelt Park, which is located  
5           diagonally across the street from this building.  
6           Please proceed calmly and quickly. Again,  
7           following the employees with whom you are meeting  
8           to exit the building.

9           Today's public meeting is the Efficiency  
10          Committee's Public Hearing regarding proposed  
11          amendments to the appliance efficiency regulations  
12          related to lighting efficiency, battery charger  
13          systems test procedures, residential pool pumps  
14          and substantial updates, clarifications and  
15          revisions to the appliance efficiency regulations  
16          to be current with federal laws.

17          Today's meeting is also the Committee's  
18          public meeting to take comments on the Draft  
19          Environmental Impact Report for Lighting  
20          Efficiency Standards related to Part A.

21          We ask that any member of the public  
22          wishing to speak fill out one of these blue cards  
23          so that we can advise our Presiding Member as to  
24          who needs to speak when.

25          There are copies of the meeting agenda

1 and Committee Notices and a limited number of  
2 copies of the staff reports, other rulemaking  
3 documents and presentations available in the  
4 foyer. In particular there is a Notice of  
5 Proposed Action for both Part A and Part B of the  
6 Rulemaking and the Notice of Completion for the  
7 Draft Environmental Impact Report.

8 All comments received to date have been  
9 posted on our website and we will be posting the  
10 slide packs used in today's presentations along  
11 with any additional comments received following  
12 today's workshop.

13 This workshop is being recorded and the  
14 transcript will be posted within two weeks.

15 This meeting is also being broadcast  
16 over the Internet. Interested public wishing to  
17 participate by phone may call in to the following  
18 number, 1-888-469-2078. The passcode is  
19 Regulations, the call leader is Melinda Merritt.

20 So in its April Scoping Order and  
21 Workshop Notice the Committee Established the  
22 scope of Phase I of this proceeding, which is  
23 currently divided into three parts. This hearing  
24 today is considering possible amendments related  
25 to Parts A and B of this proceeding.

1           The topics that are being considered  
2   under Part A include general purpose lighting.  
3   These are standards for general service lamps.  
4   And also portable lighting fixtures, portable  
5   luminaires are topics under Part A.

6           Part B topics include metal halide  
7   fixtures or luminaires, a proposed test procedure  
8   for battery charger systems, revisions to the  
9   current standards regarding residential pool pumps  
10  and portable electric spas. And again, necessary  
11  updates and revisions for consistency with recent  
12  federal laws and other non-substantive changes.

13          Just quickly. The most recent events and  
14  the remaining schedule for Phase I. The  
15  rulemaking documents were published by the Office  
16  of Administrative Law at the end of last month.

17          ADVISOR TUTT: Excuse me, Melinda.

18          MS. MERRITT: Yes.

19          ADVISOR TUTT: Can you dim the lights a  
20  little bit so it will be easier to see over there.  
21  Thank you.

22          PRESIDING MEMBER ROSENFELD: Much  
23  better.

24          MS. MERRITT: Okay. The 45-day public  
25  comment period with respect to the rulemaking

1 documents, the 45-day language, ends on October  
2 13. And comments will be accepted up to October  
3 22, which is the scheduled date for possible  
4 adoption by the Energy Commission at the October  
5 22 Business meeting.

6 Modifications to the 45-day language may  
7 be required; and modified text will be made  
8 available at least 15 days prior to the noticed  
9 Energy Commission adoption. This is 15-day  
10 language. And the earliest possible adoption date  
11 for 15-day language is December 3, 2008 Business  
12 meeting.

13 With respect to the Draft Environmental  
14 Impact Report for Lighting Efficiency Standards,  
15 the DEIR. The documents were filed with the State  
16 Clearinghouse on August 14.

17 There's a 45-day comment period ending  
18 October 6.

19 All public comments will be addressed in  
20 the final Environmental Impact Report.

21 And possible adoption of that document  
22 would be, at the earliest, the October 22, 2008  
23 Business Meeting.

24 Lastly, there are a number of documents  
25 that are now out in the public. There were two

1 staff reports that were filed in late August that  
2 relate to Part A and Part B of the Phase I  
3 rulemaking. The staff reports provide the staff's  
4 assessment of feasibility, cost-effectiveness,  
5 energy use and projected savings on a statewide  
6 basis. It summarizes stakeholder proposals,  
7 comments that were received and alternatives that  
8 were considered. And it summarizes the proposed  
9 regulations for all topics.

10 The regulatory documents, the Notice of  
11 Proposed Action, the Initial Statement of Reasons,  
12 the Express Terms, et cetera, they contain both  
13 changes with regulatory effect and changes without  
14 regulatory effect.

15 The changes with regulatory effect, the  
16 Express Terms, can be found in the 45-day language  
17 for Parts A and B.

18 The non-substantive changes, those  
19 without regulatory effect, are found in the 45-day  
20 language for Part B. That was the receptacle for  
21 all of the revisions and clarifications.

22 With that we will start through the  
23 agenda. The first topic is general purpose  
24 lighting and Harinder Singh from the program staff  
25 will summarize the regulations.

1                   MR. SINGH: Good morning, everybody. My  
2                   name is Harinder Singh. I am staff with the  
3                   Appliance Efficiency Program, Building and  
4                   Appliance Office. I am presenting proposed  
5                   regulations for general service lamps.

6                   General service lamps, incandescent  
7                   lamps, use a significant amount of energy on a  
8                   statewide basis. The proposed regulations provide  
9                   an opportunity to reduce statewide residential  
10                  lighting energy use.

11                  The proposed regulations are as follows:  
12                  Adoption of general service lamp definitions as  
13                  stated in EISA. And adoption of standards  
14                  described in EISA for general service incandescent  
15                  lamps for Tier I, one year prior to federal  
16                  effective dates.

17                  Additionally, adopt a backstop  
18                  requirement for general service lamps stated in  
19                  EISA as Tier II standard, two years prior to  
20                  federal effective dates.

21                  Furthermore, incandescent lamps shall  
22                  not contain GU-24 base. This corresponds with the  
23                  proposed requirement for portable lighting  
24                  fixtures. This topic will be covered in more  
25                  detail in the afternoon. GU-24 is consistent with

1 Title-24 2008 Building Energy Efficiency Standards  
2 adopted on April 30, 2008.

3 Proposed regulations for state-  
4 regulated, general service incandescent lamps for  
5 Tier I are shown in Table K-8 and for Tier II are  
6 shown in Table K-9. These tables provide details  
7 related to the lumen ranges, rated wattage, rated  
8 lamp life and proposed effective dates.

9 The proposed regulations are supported  
10 by Ecos Consulting and PG&E's analysis and  
11 recommendations.

12 These regulations are intended to help  
13 meet the AB 1109 requirements for statewide  
14 lighting energy reduction by 2018.

15 Proposed regulations are consistent with  
16 the federal appliance law that allows California  
17 to adopt the Tier I and Tier II lighting standards  
18 for general service lamps prior to the federal  
19 effective dates.

20 Additionally the proposed regulations  
21 meet the provisions of the Public Resources Code.

22 Staff analysis and PG&E's assessment  
23 concluded that early adoption of EISA standards  
24 will contribute to achieving significant reduction  
25 in residential lighting energy consumption as

1 required by AB 1109 by 2018.

2 This will result in approximately 28  
3 percent decrease in general service incandescent  
4 lamp wattage from 2007 levels.

5 Adoption of proposed Tier II standards  
6 will result in an additional 27 percent decrease  
7 in general service lamp wattages.

8 Moreover, California will realize  
9 substantial energy savings after all existing  
10 medium screw base general service incandescent  
11 lamps are replaced with energy efficient Tier II  
12 lamps.

13 The Ecos and PG&E identified California  
14 has approximately 437 million, medium, screw-base  
15 sockets in use. The current residential annual  
16 statewide energy use by general service  
17 incandescent lamps is 17,893 million kilowatt  
18 hours.

19 The PG& case study provided an estimated  
20 incremental cost of improvement per unit due to  
21 the proposed standard is \$1 for Tier I lamps and  
22 \$2 for Tier II lamps. Furthermore, the study  
23 provides an estimated reduced cost over the design  
24 life for the Tier I as \$2.27 and for Tier II the  
25 reduced cost is \$3.22. The proposed standard is

1 cost-effective.

2 Modified spectrum. PG&E accounts for  
3 the modified spectrum. The PG&E study accounts  
4 for the modified spectrum general service lamps  
5 for base case in their study. Modified spectrum  
6 general service incandescent lamps are less  
7 efficacious than the standard general service  
8 incandescent lamps and have lower lumens per watt.

9 For Tier I EISA lighting efficiency  
10 standards include a table for modified spectrum  
11 general service incandescent lamps along with a  
12 table for standard general service incandescent  
13 lamps. The lumen bins modified spectrum general  
14 service incandescent lamps provided in EISA use 28  
15 percent less power than the current modified  
16 spectrum general service incandescent lamps  
17 available in the market.

18 Both PG&E and Energy Commission staff  
19 assessments, that is energy use and cost savings,  
20 include modified spectrum lamps as a segment or a  
21 subset of general service incandescent lamps.

22 Modified spectrum general service  
23 incandescent lamps are included in the scope and  
24 definition of Tier II.

25 The estimated average life cycle benefit

1 per unit is fairly close to both types of lamps.

2 The estimated design life and incremental cost  
3 assumed for both types of lamps are the same.

4 Due to the staff oversight the EISA  
5 table for modified spectrum general service  
6 incandescent lamps for Tier I was not included in  
7 the proposed regulation Express Terms.

8 Staff proposes to correct this oversight  
9 in 15-day language with the inclusion of the EISA  
10 table and appropriate definitions in Express Terms  
11 for Part A as a standard for state-regulated  
12 modified spectrum general service incandescent  
13 lamps, Tier I, with one year accelerated effective  
14 dates in California. The table for modified  
15 spectrum is given below.

16 Modified spectrum lamps are included in  
17 Part B Express Terms as a federally-regulated lamp  
18 consistent with the EISA specifications and  
19 effective dates. And this concludes my  
20 presentation. Thank you.

21 PRESIDING MEMBER ROSENFELD: Thank you,  
22 Harinder. Is there comments and discussion? Does  
23 staff have something to say first?

24 MS. MERRITT: Well at this point we  
25 have, we will open it up for public comment or

1        comments by particularly interested parties. I  
2        think that the National Electrical Manufacturers  
3        Association --

4                PRESIDING MEMBER ROSENFELD: Melinda, I  
5        can't hear you.

6                MS. MERRITT: Um --

7                PRESIDING MEMBER ROSENFELD: That's  
8        better.

9                MS. MERRITT: Okay, sorry. At this  
10       point we will entertain any questions to the  
11       staff's presentation and open this up for comments  
12       from interested parties. I understand we have  
13       Dain from the National Electrical Manufacturers  
14       Association who would like to make some comments.

15               PRESIDING MEMBER ROSENFELD: And Dain,  
16       hold on one second. In making introductions I  
17       realized I forgot to introduce the staff at the  
18       table here. That's Bill Pennington, Betty  
19       Chrisman and Bill Staack. Thank you for being  
20       here. Dain, go ahead. And tell us who you are.

21               MR. HANSEN: My name is Dain Hansen, I  
22       am with the National Electrical Manufacturers  
23       Association, also known as NEMA. We represent  
24       about, NEMA has a membership of approximately 450  
25       electrical manufacturers in the capturing,

1 transmission, distribution and end use of  
2 electrical components.

3 In this rulemaking we are going to have  
4 comments throughout the period but my comments  
5 today are pertaining to the Tier II standards  
6 under this rulemaking.

7 We want to first of all say thank you to  
8 all the staff and the Commissioners. It has been  
9 good to work with you. We have been going back  
10 and forth through this year and been able to have  
11 good dialogue and discussions with everyone  
12 involved. And I think it is making this  
13 rulemaking go along much smoother. So we  
14 appreciate that.

15 NEMA recognizes that California is  
16 proposing to adopt standards at 45 lumens per watt  
17 for incandescent lamps in 2018. NEMA's position  
18 is that the ability for California to adopt the  
19 standard will be dependant upon the federal  
20 activity. As the CEC correctly points out in  
21 their staff report, there is federal language in  
22 EISA, or the Energy Independence and Security Act  
23 of 2007, that places around California their  
24 ability to adopt incandescent regulations in 2018.

25 And under this federal law they give

1 California three rules to work around. They say  
2 California can adopt a final rule adopted by the  
3 federal government two years early in 2018.  
4 Number two, they can adopt the backstop standard  
5 of 45 lumens per watt if there is no federal rule  
6 in place. And number three, continue with  
7 standards already in place before EISA.

8 The rules being proposed would only be  
9 applicable under option two, which makes this a  
10 conditional option. The condition that being no  
11 federal rule is in place. If a federal rule is in  
12 place California's only option, assuming option  
13 three would not be pursued, is to adopt the  
14 federal rule two years early. Therefore, in 2018  
15 a proposal should be spelled out as a conditional  
16 adoption pending the outcome of any federal  
17 activity. Whether California states that  
18 explicitly or not does not change the conditional  
19 affect of this new, of this adoption.

20 Again, NEMA recommends that  
21 consideration of our original language stating  
22 that California intends to adopt a future rule two  
23 years early. A future federal rule two years  
24 early. If a federal rule does not happen,  
25 California will still have plenty of time

1 approximately ten years from now to adopt a  
2 backstop standard as allowed. Thank you.

3 PRESIDING MEMBER ROSENFELD: Thank you.  
4 That seems to be what I understood is going on  
5 anyway. I am not quite sure. Can I ask staff,  
6 maybe Bill Staack. Is the word -- This word  
7 conditional. It's implied anyway? I'm not sure  
8 if I understand what the controversy is, Bill.

9 MR. STAACK: Underneath the federal law,  
10 42 USC Section 6295(i)6(A). And then it's V-I is  
11 where the state preemption language is that we are  
12 discussing right now. And what we are proposing  
13 actually under our authority is to -- It could  
14 either be underneath this backstop or Part III,  
15 where we are allowed to adopt anything that we  
16 want if DOE does not adopt. And that's where we  
17 are coming up with the 45 watts per lumen. But  
18 the bottom line is --

19 PRESIDING MEMBER ROSENFELD: Lumens per  
20 watt.

21 MR. STAACK: Yes, I'm sorry. But the  
22 bottom line is whatever we adopt, the effective  
23 date isn't until January 1, 2018. There is no  
24 preemption issue unless we have adopted something  
25 wrong, which won't occur until 2018. By then we

1 have all these years to make a correction if  
2 necessary. But I believe staff believes that the  
3 45 is cost-effective and feasible for us to adopt  
4 that now. And there is no federal preemption  
5 issue until the federal law comes into play, which  
6 is 2018, January 1.

7 Actually you could say it is  
8 conditional. But it could be changed or not  
9 changed. We won't know that until the specific  
10 date and find out if DOE actually adopts something  
11 or not. Does that answer?

12 PRESIDING MEMBER ROSENFELD: I've got to  
13 say I really don't see any big difference between  
14 Dain Hansen and what you said. I'm happy with  
15 either one.

16 MR. STAACK: Well what we are doing is  
17 we are putting language in that actually is  
18 conditional.

19 PRESIDING MEMBER ROSENFELD: Yeah.

20 MR. STAACK: Because it could be  
21 federally preempted, but we don't know that. So  
22 we are allowed to adopt standards that are cost  
23 effective and feasible. But the effective date is  
24 where the federal preemption come in. And we  
25 won't know that until 2018, whether there's an

1 issue or not. And we have plenty of time, if we  
2 need to, to adjust. You know, if DOE actually  
3 does adopt a standard then our standard actually  
4 is moot because it is federally preempted.

5 PRESIDING MEMBER ROSENFELD: Okay.

6 MR. PENNINGTON: Just a little bit more  
7 clarity. The Commission is not preempted from  
8 adopting things. We are preempted from putting  
9 into effect standards that we adopt --

10 PRESIDING MEMBER ROSENFELD: Right.

11 MR. PENNINGTON: -- if there is a  
12 preemption issue. So there is no preemption that  
13 would stop the Energy Commission from adopting a  
14 standard today for what it anticipates will be the  
15 level that we will to have in effect in 2018.

16 If DOE acts down the line as they are  
17 directed then we could adjust that. We could  
18 refine that, presumably. If they act reasonably  
19 it would be similar to what we are adopting today.

20 PRESIDING MEMBER ROSENFELD: And we are  
21 sitting, drawing a line in the sand. Okay, I  
22 think I am clear on that. And Dain, you will  
23 leave your comments in writing, right?

24 MR. HANSEN: Yes.

25 ASSOCIATE MEMBER PFANNENSTIEL: Art?

1                   PRESIDING MEMBER ROSENFELD:   Yes.

2                   ASSOCIATE MEMBER PFANNENSTIEL:   Just a  
3                   question to NEMA.   Dain, would the industry be --  
4                   Isn't it better for the industry to know this much  
5                   in advance what California's intention is?  It  
6                   seems like setting this road map for ourselves,  
7                   for the state, ten years out is a good, is a good  
8                   thing.  And yes, DOE may act a certain way and we  
9                   end up being preempted from enforcing this.  But  
10                  having it out there seems like it's a valuable  
11                  piece of information for the industry to know,  
12                  this is where California intends to be.

13                 MR. HANSEN:  I specifically can't say if  
14                  we agree with that or not because I have to talk  
15                  with the members.  But I think I can definitely  
16                  talk about that.  But I think the biggest concern  
17                  is just to make sure that it's, as has been  
18                  stated, it's conditional.  And just so we know  
19                  that it would be such.

20                 ASSOCIATE MEMBER PFANNENSTIEL:  Right,  
21                  we understand that.

22                 PRESIDING MEMBER ROSENFELD:  We  
23                  understand that.

24                 ASSOCIATE MEMBER PFANNENSTIEL:  That's a  
25                  legal issue.  But from a technical issue is really

1        what I'm saying. Our technical analysis says that  
2        45 lumens per watt by 2018 is technically feasible  
3        and cost-effective. So that is, I think as  
4        Commissioner Rosenfeld just said, our line in the  
5        sand. And it seems like that's a valuable piece  
6        of information.

7                MR. HANSEN: I appreciate it, thank you.

8                MR. PENNINGTON: Could I make one more  
9        comment?

10                PRESIDING MEMBER ROSENFELD: Please,  
11        Bill. Bill Pennington.

12                MR. PENNINGTON: Short. I'm sorry for  
13        taking time. We are directed by AB 1109 to adopt  
14        standards this year that would save a huge amount  
15        of energy. And so this adoption at this point in  
16        time of the 45 lumens per watt is meeting a  
17        commitment relative to 1109 that results in huge  
18        amounts of energy. And if we fail to do that then  
19        it is unclear whether we are meeting our  
20        commitments under 1109. Or less clear, I should  
21        say. So that's another reason.

22                PRESIDING MEMBER ROSENFELD: Bill, this  
23        famous Huffington Bill, 1109. Which is I think  
24        for a reduction to 50 percent by a certain date  
25        and I have forgotten what that date is.

1 MR. PENNINGTON: 2018.

2 PRESIDING MEMBER ROSENFELD: By  
3 coincidence it's 2018. So Dain, you see a little  
4 bit of what is driving us. That tells us to  
5 adopt, by golly, and we are going to do that.  
6 Thanks, Bill.

7 ADVISOR TUTT: Commissioner.

8 PRESIDING MEMBER ROSENFELD: Tim.

9 ADVISOR TUTT: I would also like to  
10 point out that the federal standard has a backstop  
11 requirement, as we know, that says that the  
12 eventual federal rule should -- it has to be at  
13 least 45 lumens per watt or more stricter. So in  
14 the case that DOE does adopt something that is  
15 greater than 45 lumens per watt.

16 MS. CHRISMAN: Stricter.

17 PRESIDING MEMBER ROSENFELD: That is  
18 stricter. If they eventually do that, as they are  
19 allowed, I see no reason why we would not adjust  
20 to reflect that.

21 PRESIDING MEMBER ROSENFELD: Happily.

22 ADVISOR TUTT: Happily.

23 PRESIDING MEMBER ROSENFELD: Okay.

24 Other comments? Melinda, back to you.

25 MS. MERRITT: Okay. At this point in

1 the agenda we are at the Public Meeting to take  
2 comments on the Draft Environmental Impact Report  
3 for the lighting efficiency standards considered  
4 in Part A.

5 Peter Strait from our program staff will  
6 be giving a brief overview of the Draft EIR and  
7 then we will open it up for public comment.

8 MR. STRAIT: Thank you, Melinda. First  
9 of all I would like to welcome everyone to this  
10 hearing. Part of the purpose of this public  
11 hearing is to provide an opportunity for the  
12 public to comment on the content of the Draft  
13 Environmental Impact Report, or DEIR, prepared by  
14 the California Energy Commission staff.

15 This DEIR addresses the current status,  
16 potential impacts and available mitigation path to  
17 follow if California adopted energy efficiency  
18 standards for general service lamps and portable  
19 lighting fixtures, specifically as it relates to  
20 compact fluorescent lamps, or CFLs.

21 Note that the DEIR does not address any  
22 of the actions in Rulemaking Part B. Those  
23 actions are not known to have any potentially  
24 significant impacts and are covered by a separate  
25 Negative Declaration.

1           The authority to adopt these regulations  
2 stems from the following: Federal law preempts  
3 state and local agencies from adopting their own  
4 appliance efficiency regulations for any appliance  
5 regulated by the Department of Energy, absent a  
6 specific exemption.

7           In December of 2007 Congress approved  
8 the Federal Energy Independence and Security Act  
9 of 2007, also known as the EISA, which set  
10 minimal, efficiency requirements for general  
11 service lamps. EISA gave California and other  
12 states the authority to adopt regulations that may  
13 be implemented one year prior to the proposed  
14 federal effective date.

15           In addition to California's granted  
16 authority, Assembly Bill 1109, as mentioned,  
17 expressly requires the Energy Commission to adopt  
18 lighting efficiency standards by December of 2008.

19           The Energy Commission proposes to adopt  
20 amendments to the appliance efficiency regulation  
21 to accelerate the effective dates of the federal  
22 Tier I and Tier II lighting efficiency standards  
23 as provided in the EISA by one year and two years,  
24 respectively.

25           Once the federal lighting standards

1       become effective at the national level,  
2       California's lighting standards will be superseded  
3       and will no longer be responsible for any  
4       potential impacts.

5               The Energy Commission is also proposing  
6       to adopt efficiency standards for portable  
7       lighting fixtures that increase the energy  
8       efficiency of these fixtures.

9               As this proposed adoption is an activity  
10      undertaken by a public agency with the potential  
11      to result in direct or indirect physical changes  
12      in the environment it constitutes a project under  
13      the California Environmental Quality Act, or CEQA.  
14      CECA requires public agencies to identify and  
15      consider the potential environmental effects of  
16      their projects. And when feasible, to mitigate  
17      any related adverse environmental consequences.

18              Acceleration of the federal lighting  
19      standards and increasing the efficiency of  
20      portable lighting fixtures is expected to  
21      contribute to significant energy savings within  
22      the state of California, partly through the  
23      increased use of compact fluorescent lamps and  
24      fluorescent lamp tubes.

25              Fluorescent lamps of both kinds contain

1 small amounts of mercury. The California  
2 Department of Toxic Substance Control, or DTSC, is  
3 mandated to regulate hazardous waste and to  
4 develop means of keeping such material out of the  
5 non-hazardous, solid waste stream. In a prior  
6 rulemaking DTSC defined fluorescent lamps,  
7 including both CFLs and fluorescent tubes, as an  
8 M003 listed universal waste. Because DTSC found  
9 that any release of mercury or mercury compounds  
10 presents a human health and environmental risk.

11 All M003 listed universal waste must be  
12 managed according to the universal waste  
13 regulations and sent to a qualified recycler to  
14 ensure that the mercury is kept out of the  
15 environment. It cannot be disposed of in  
16 municipal landfills.

17 The DEIR contends that all potentially  
18 significant impacts would be reduced to less-than-  
19 significant levels by implementing the universal  
20 waste regulations.

21 However, the full management of CFLs and  
22 fluorescent tubes has not materialized and most of  
23 this waste is currently improperly managed.  
24 Therefore the DEIR is formulated under the  
25 assumption that the proposed lighting standards

1 will result in a potentially significant impact  
2 regarding mercury disposal until the universal  
3 waste regulations are implemented and enforced.  
4 Such implementation and enforcement is under the  
5 authority and responsibility of the DTSC.

6 With that we invite anyone with comments  
7 to please make them at this time. To allow  
8 sufficient time and to be concise, the staff will  
9 not respond to any technical questions at this  
10 time. Once staff has had the opportunity to  
11 review and develop a precise answer to all  
12 questions a written response will be made  
13 available to all interested parties within the  
14 Final Environmental Impact Report.

15 The 45-day public comment period ends on  
16 October 6, 2008. The Energy Commission may  
17 consider adoption of the EIR as early as the  
18 October 22, 2008 Business Meeting.

19 At this time if anyone has any comments  
20 they would like to make related to the Draft  
21 Environmental Impact Report I invite you to do so.

22 ASSOCIATE MEMBER PFANNENSTIEL: Peter,  
23 is anybody here from DTSC? Could you come up.

24 MR. ALGAZI: Hi, I'm Andre Algazi, I'm  
25 with the Department of Toxic Substances Control,

1       formerly the Hazardous Waste Management Program,  
2       now part of the Office of Pollution Prevention and  
3       Green Technology.

4               PRESIDING MEMBER ROSENFELD:   Could you  
5       just spell your name for us.   We are all very  
6       interested in you.

7               MR. ALGAZI:   Sure, it's A-L-G-A-Z-I.  
8       That's my last name.   Andre is spelled --

9               ASSOCIATE MEMBER PFANNENSTIEL:   Thank  
10      you.   Since clearly this whole question of  
11      unmitigated impact depends on the ability to  
12      process the mercury, or dispose of the mercury,  
13      could you just give us a sense of what's happening  
14      in that regard.   I know that we have talked to  
15      DTSC over the past couple of years on a program  
16      that would, in fact, require some disposal or  
17      recycling of used CFLs.   What is happening with  
18      that?

19              MR. ALGAZI:   Several years ago we  
20      adopted the regulation referred to in the  
21      presentation, prior to which some fluorescent  
22      lighting was classified as hazardous waste and  
23      some wasn't.   So we in 2003 adopted this listing  
24      which basically said a lamp with intentionally  
25      added mercury was hazardous waste to be managed

1 under this kind of simpler scheme called the  
2 Universal Waste Rule and could not be disposed.

3 In the intervening four or five years we  
4 had hoped that a collection infrastructure would  
5 develop. We have already got -- We were assured  
6 at the time that we did the regulation in 2003 by  
7 the lighting recycling industry that they had the  
8 capacity to properly recycle all of the  
9 fluorescent lighting waste generated in California  
10 at that time.

11 And so the problem seemed to be more of  
12 a collection and transportation infrastructure  
13 shortfall, especially with regard to residential  
14 lighting waste. So in the intervening time we got  
15 a little sidetracked with electronic waste. The  
16 infrastructure for collecting lamps did not kind  
17 of spring up spontaneously.

18 When AB 1109 went into place we were --  
19 so another provision of this bill that is  
20 mandating the regulations that this Draft EIR  
21 covers told DTSC to convene a task force of  
22 various parties. Mr. Tutt is part of that.

23 So we have had ongoing meetings and we  
24 have a report to the Legislature, which is at the  
25 Governor's Office. It was actually due to the

1       Legislature on the 1st of September but it hasn't  
2       yet gone. But that report recommends some steps  
3       to increase the infrastructure for convenient  
4       collection and recycling of lamps.

5               So currently from households, based on  
6       data submitted by local household hazardous waste  
7       collection programs, we have estimated maybe ten  
8       percent collection rate. Which is actually  
9       significantly better than household hazardous  
10      waste in general but not too good.

11             ASSOCIATE MEMBER PFANNENSTIEL: So what  
12      is the solution here? I mean, we are sort of  
13      trapped in trying to find a disposal or some  
14      program that's going to work in California.

15             MR. ALGAZI: Well the solution is --

16             ASSOCIATE MEMBER PFANNENSTIEL: Is it  
17      money? Is it organization?

18             MR. ALGAZI: Yes.

19             ASSOCIATE MEMBER PFANNENSTIEL: Both of  
20      those?

21             MR. ALGAZI: Yes. So the problem is  
22      convenience and cost. One convenient option would  
23      be, for example, collection at retail. Which some  
24      retailers have already stepped up and offered to  
25      do. Most recently Home Depot and some local Ace

1       Hardwares, IKEA.

2               ASSOCIATE MEMBER PFANNENSTIEL:   So are  
3       they doing it?

4               MR. ALGAZI:   Yes.

5               ASSOCIATE MEMBER PFANNENSTIEL:   They are  
6       actually -- So if I take my burned out CFLs --

7               MR. ALGAZI:   You can go to any IKEA or  
8       any Home Depot and they'll take them.   CFLs, not  
9       linear lamps.

10              ASSOCIATE MEMBER PFANNENSTIEL:   Right,  
11       got that.

12              MR. ALGAZI:   So that's likely to be part  
13       of a solution for convenient collection.   The  
14       second issue is funding.   Because it is actually  
15       not a commodity with a positive value.   A spent  
16       lamp actually is sort of a liability.   It costs  
17       money to properly recycle it.   Even though they do  
18       reclaim various components from it and reuse them  
19       for something, the cost of capturing the mercury  
20       and what not.

21              ASSOCIATE MEMBER PFANNENSTIEL:   Is there  
22       a proposal to perhaps put a fee on the price of  
23       every CFL such as to create a fund to do this?

24              MR. ALGAZI:   Well that has been  
25       discussed.   One of the sort of premises of the

1 discussion of the task force that we convened was  
2 that we did not want to dissuade people from using  
3 energy efficient lighting so a variety of things  
4 have been talked about. One of which is what you  
5 mentioned. Another is some other funding  
6 mechanisms. A potentially invisible fee or  
7 something coming from the manufacturers and/or  
8 some energy efficiency funds from ratepayers,  
9 things like that.

10 ASSOCIATE MEMBER PFANNENSTIEL: So what  
11 I'm hearing is this is a long ways from being  
12 resolved unless, perhaps, there is legislation  
13 introduced next session.

14 MR. ALGAZI: Well the outcome of this  
15 report will likely be legislation. So the report  
16 is basically making recommendations to the  
17 Legislature on how to address this issue. So I  
18 would expect something to happen.

19 ASSOCIATE MEMBER PFANNENSTIEL: Finally.  
20 Thank you.

21 PRESIDING MEMBER ROSENFELD: Thank you  
22 very much.

23 MR. ALGAZI: Thank you.

24 PRESIDING MEMBER ROSENFELD: Actually I  
25 have one question, Andre. One question occurred

1 to me. I'm sorry, I'm asleep at the switch here.  
2 Can you say a word or so, or maybe Tim, about how  
3 this problem has been solved in other countries.  
4 In Europe, for example. Will practically any  
5 retailer take back a CFL? What hopes do you have  
6 for Wal-Mart or whatever to step up to the plate?

7 MR. ALGAZI: Well they have a variety of  
8 systems in the European Union for collecting lamps  
9 from consumers. Lamps are covered under the WEED  
10 directive, which is the Waste Electrical and  
11 Electronic Equipment Directive in the European  
12 Union. And it's kind of country-by-country  
13 implementation, it is not consistently done. But  
14 they have had some success in some countries in  
15 Europe.

16 We had some speakers from Europe at a  
17 recent workshop hosted by the Integrated Waste  
18 Management Board on extended producer  
19 responsibility, which is the concept that the  
20 producer of the product should have responsibility  
21 ultimately at the end of life for the disposition  
22 of their product. And what we heard was that in  
23 some cases they have been quite successful in the  
24 European Union.

25 We are having, we are doing things a

1 little bit more piecemeal. We are just attacking  
2 lamps rather than that directive which was very  
3 broad in scope. I wouldn't -- It's hard to say,  
4 because it is different from country to country,  
5 that we would have something like any particular  
6 country in the European Union.

7 But there have been also some cases in  
8 localities. The state of Minnesota has had a  
9 pretty good program for fluorescent lamp recycling  
10 for maybe 10 years or 15 years. Some of the  
11 European countries for a number of years. And  
12 there are some local programs that have been  
13 successful. Madison, Wisconsin, I guess.

14 I don't think our solution will look  
15 exactly like any of those but we are hopeful that  
16 we will find something that works for, you know,  
17 the people of California for it to be convenient.  
18 And also for all the stakeholders who are involved  
19 in the discussions.

20 PRESIDING MEMBER ROSENFELD: Thank you.

21 MR. ALGAZI: Thank you.

22 MS. MERRITT: Are there any additional  
23 comments from any member of the public on the  
24 Draft Environmental Impact Report?

25 I don't see any so we can conclude that

1 segment of this hearing and move on to the next  
2 topic on the agenda which is Updates and Revisions  
3 Necessary for Consistency with Federal Laws and  
4 Other Non-Substantive Changes. Betty Chrisman  
5 from the program staff will be providing an  
6 overview. Betty.

7 MS. CHRISMAN: Thank you, Melinda. For  
8 the record, I am Betty Chrisman with the  
9 California Energy Commission's Appliance  
10 Efficiency Program.

11 Non-substantive changes are shown in the  
12 Part B proposed regulations with text that is  
13 either struck out or underlined. These reflect  
14 changes without regulatory effect found in 10 Code  
15 of Federal Regulations, CFR, Sections 430 and 431,  
16 federal standards for consumer products and  
17 commercial and industrial equipment; 16 CFR  
18 Section 305, the Federal Trade Commission's  
19 marking requirements; the Energy Independence and  
20 Security Act of 2007; and other clarifications.

21 Non-substantive changes are generally  
22 changes that do not materially alter any  
23 requirement, right, responsibility, condition,  
24 prescription or other regulatory element of any  
25 California Code of Regulations provision. Such

1 changes may include, but are not limited to:  
2 renumbering, reordering, or relocating a  
3 regulatory provision; revising structure, syntax,  
4 cross-reference, grammar or punctuation; making a  
5 regulatory provision consistent with required  
6 federal law; or deleting a regulatory provision  
7 for which a federal law has been repealed.

8 Section 1605.1 of our regulations,  
9 federal and state standards for federally  
10 regulated appliances, includes updated or new  
11 federal standards for appliances shown on this  
12 slide and the next slide. I'll give you a couple  
13 seconds to look at that one. This is the second  
14 slide for updated or new federal standards.

15 Where appropriate, standards in Section  
16 1605.3, state standards for non-federally  
17 regulated appliances, have either been removed  
18 where federal standards are already in effect; or  
19 have an end-date incorporated, where federal  
20 standards take effect in the future. In some  
21 cases standards recently preempted are kept in the  
22 document for reference and will be removed under  
23 the next general rulemaking.

24 Both commercial pre-rinse spray valves  
25 and pedestrian traffic signals maintain California

1 standards while also having federal standards, as  
2 specifically allowed in the Energy Policy Act of  
3 2005.

4 Staff welcomes stakeholders review and  
5 comments. And this concludes my presentation for  
6 this portion. Thank you.

7 PRESIDING MEMBER ROSENFELD: Thank you  
8 for an appropriately boring presentation.

9 (Laughter)

10 PRESIDING MEMBER ROSENFELD: I presume  
11 there is nobody eager to make comments about this.

12 MS. MERRITT: I guess I'll just  
13 underscore our invitation and request of parties  
14 to take a look at the very large amount of changes  
15 that --

16 PRESIDING MEMBER ROSENFELD: Melinda,  
17 can you talk into the mic.

18 MS. MERRITT: Okay, sorry. I just want  
19 to reiterate Betty's request that parties take a  
20 look at Part B and the really extensive revisions,  
21 updates, clarifications that we have made. And  
22 we'd welcome any input, corrections, editing that  
23 anyone might find. There was quite a bit done  
24 there.

25 The next topic on our agenda is a

1 proposed test procedure battery charger systems.

2 And we have Harinder Singh, Energy Commission  
3 staff, to make a brief overview. After that we  
4 will be handing this off to Pacific Gas and  
5 Electric Company with Ecos Consulting for a  
6 follow-on presentation. Harinder.

7 MR. SINGH: Hello everybody. For the  
8 record my name is Harinder Singh. I am presenting  
9 the proposed adoption of battery charger test  
10 method.

11 A battery charger system is referred to  
12 as a battery charger coupled with batteries.

13 California's appliance efficiency  
14 regulations do not currently include test  
15 procedures or efficiency standards for battery  
16 charger systems.

17 The US DOE, Department of Energy,  
18 current test procedure for battery charger systems  
19 measures energy consumption in inactive mode.

20 DOE published a Notice of Proposed  
21 Rulemaking on August 15, 2008, proposing  
22 amendments to the existing test procedures for  
23 battery chargers.

24 DOE is required to determine by July 1,  
25 2011 if energy conservation standards for battery

1       chargers are technically feasible and economically  
2       justifiable.

3               PG&E with Ecos Consulting submitted a  
4       proposed information template for battery charger  
5       systems on April 7, 2008, recommending that Energy  
6       Commission adopt a battery charger system test  
7       procedure developed by Ecos, EPRI, funded by the  
8       Energy Commission's PIER program and PG&E. PG&E's  
9       study identified that over 130 million battery  
10      charger systems are in use in California.

11             PG&E's initial proposal examined the use  
12      of battery charger systems in California,  
13      concluding that battery charger system  
14      efficiencies could be improved dramatically and  
15      would yield significant energy savings. In  
16      addition the proposal recommends that the Energy  
17      Commission request that manufacturers or other  
18      interested parties submit test data to help  
19      develop future battery charger standards.

20             Energy Commission staff conducted  
21      various meetings with battery charger trade  
22      associations, manufacturers, the Consumer  
23      Electronics Association and other industry  
24      representatives, with the DOE, Natural Resources  
25      Canada and electrical utilities. PG&E and the

1 staff received comments and suggestions from  
2 stakeholders and most of the comments have been  
3 incorporated into the test procedure.

4 Additionally Part B was added following  
5 a meeting with the large battery charger  
6 stakeholders and all stakeholders agreed to  
7 include testing of large battery charger systems  
8 into the Ecos test method. The stakeholder  
9 process resulted in Version 2.1.4 of this test  
10 method.

11 Staff addressed comments and concerns  
12 received from Consumer Electronics and Motorola  
13 during the pre-rulemaking process and the staff  
14 report. CEA, the Consumer Electronics  
15 Association, expressed concern regarding the  
16 overlap of the proposed battery charger systems  
17 test procedures in the state regulations and  
18 federal external power supply regulations.

19 Federal law states that an energy  
20 conservation standard for external power supplies  
21 shall not constitute an energy conservation  
22 standard for the separate end-use product to which  
23 the external power supply is connected.

24 It is clear from the federal law that  
25 the battery charger systems that are built into

1 separate end-use products are not considered  
2 external power supplies. And testing them for  
3 energy efficiency standards does not constitute  
4 double testing. Moreover, there are no provisions  
5 in the proposed test procedure to test the  
6 external power supplies or internal power  
7 supplies.

8 Staff believes that PG&E and Ecos  
9 Consulting's test procedures is comprehensive,  
10 measures energy consumption in active, maintenance  
11 and standby mode. The test procedure is  
12 applicable to a wide range of battery charger  
13 system applications.

14 Staff recommends adoption of a voluntary  
15 test procedure, the Energy Efficient Batter  
16 Charger System Test Procedure, Version 2.1.4,  
17 developed by Ecos, PG&E, Southern California  
18 Edison and San Diego Gas and Electric as refined  
19 through this rulemaking process.

20 Furthermore the staff recommends that  
21 the Energy Commission's Efficiency Committee issue  
22 a call for submittal of battery chargers test data  
23 from manufacturers and interested parties.

24 Staff agrees with the PG&E proposal that  
25 there receipt of additional test data will be

1 critical in analyzing how battery charger systems  
2 use energy, how energy use relates to the battery  
3 chemistry or capacity, and what role technologies  
4 and product types play in energy consumption.

5 Current and comprehensive test data will  
6 be helpful and is necessary in forming the basis  
7 to develop appropriate future efficiency standards  
8 for the battery charger systems.

9 A draft template for collection of data  
10 has been reviewed by stakeholders and is expected  
11 to be finalized soon. PG&E and Ecos will provide  
12 more information on schedules and the data  
13 collection process.

14 This concludes my presentation. As  
15 Peter mentioned, the audience, anybody is welcome  
16 to make any comments. Staff will not respond to  
17 technical questions, we will take comments. And  
18 we will respond to any technical questions  
19 received by us in writing. Thank you.

20 TELECONFERENCE OPERATOR: We do have a  
21 comment. We do have a comment from Larry Albert.

22 MS. MERRITT: Okay. Larry, are you on  
23 the line?

24 MR. ALBERT: Yes I am.

25 MS. MERRITT: All right, this is a good

1 moment then to make your comment.

2 MR. ALBERT: This is Larry Albert  
3 representing the Power Tool Institute. I just  
4 wanted to comment on the process that took place  
5 in the revisions of the test procedure. We  
6 believe that we had the opportunity to raise  
7 questions and comments and they were to a large  
8 extent addressed by the staff and incorporated  
9 into the test procedure.

10 Our feeling at this point is that for  
11 the most part the test procedure addresses some of  
12 the key measurements for active power, standby and  
13 maintenance. We believe that it probably  
14 represents at least a good starting point for  
15 comprehensive measurements of energy efficiency  
16 and battery chargers used for power tool  
17 applications.

18 Our position, I guess it hasn't been  
19 changed from earlier hearings, where we believe  
20 that the important consideration here is the  
21 adoption of a measurement that takes into account  
22 all three quantities in a balanced fashion that  
23 represents the actual energy during the use phase  
24 of the product. And we believe by having active,  
25 no energy, standby and maintenance mode energy

1 represented in the test procedure, by balancing  
2 these measurements in a comprehensive way it is  
3 possible to come up with a measurement for  
4 individual classes of battery chargers that would  
5 be reflective to a great extent of their actual  
6 energy consumed in use.

7 In addition I guess the only area in  
8 which we have perhaps still lingering disagreement  
9 with the test procedure is in the measurement of  
10 power factor. I understand the comment that we  
11 received earlier from PG&E and Ecos with respect  
12 to the rationale for measuring it.

13 We believe that it is probably not  
14 appropriate to include it in the test procedure in  
15 that it constitutes a new avenue of investigation  
16 that really doesn't relate back to the energy  
17 efficiency of the end product. In addition it  
18 opens the door to setting limits for a power  
19 factor that we believe would be inappropriate for  
20 addressing energy efficiency in battery chargers.

21 Again I would like to thank the staff  
22 for being extremely open and willing to make  
23 accommodation to stakeholder comment. I believe  
24 that the test procedure is a fairly good  
25 reflection of the acceptance process. Thank you.

1                   PRESIDING MEMBER ROSENFELD: Thank you,  
2                   Larry. And now I see Fernstrom's hand up.

3                   MR. FERNSTROM: Gary Fernstrom, Pacific  
4                   Gas and Electric Company. Larry, before you  
5                   conclude your comments, do you have thoughts on an  
6                   alternative to the measurement of power factor  
7                   that might provide an indication of the energy  
8                   efficiency associated with that?

9                   PRESIDING MEMBER ROSENFELD: Is Larry  
10                  still on the line? Gary, I think he is so happy  
11                  he hung up.

12                 MR. ALBERT: Yes.

13                 PRESIDING MEMBER ROSENFELD: Larry, are  
14                  you back?

15                 MR. ALBERT: Hello?

16                 PRESIDING MEMBER ROSENFELD: Gary  
17                  Fernstrom has a question for you.

18                 MR. FERNSTROM: Larry, perhaps you  
19                  didn't hear my earlier question. This is Gary  
20                  Fernstrom from PG&E. I was wondering if you and  
21                  PTI had thoughts on an alternative way of  
22                  measuring the energy efficiency associated with  
23                  power factor in lieu of directly measuring the  
24                  power factor?

25                 MR. ALBERT: Yes. Gary, can you hear

1 me?

2 MR. FERNSTROM: Yes, we can hear you.

3 MR. ALBERT: Okay, sorry. If it's the  
4 Commission's intent that the scope of the test  
5 procedure and subsequent regulation is intended to  
6 measure power losses in the distribution system to  
7 the battery charger then it would seem to me that  
8 a better way of approaching that would be to  
9 measure the power consumption of the product  
10 through a test impedance that is reflective of the  
11 impedance of the source instead of the  
12 distribution system.

13 I think one of the problems with  
14 measuring power factor alone is that you have to  
15 measure it under some conditions of source  
16 impedance, which may or may not be reflective of  
17 the actual impedance that is causing the loss in  
18 the system. And by measuring it through a test  
19 impedance that folks believe is representative of  
20 what happens in, for example, residential  
21 situations, that intended application, then you  
22 would be able to essentially bundle the losses of  
23 those distribution system losses into the  
24 measurements of the battery charger itself.

25 This is all predicated upon the idea

1       that it would be appropriate to extend the  
2       regulation and test procedure to include losses  
3       that are not in the product itself but are losses  
4       that are incurred in the distribution of power to  
5       the product. Which, as I think we have discussed  
6       in the past, is a little bit different than some  
7       other test procedures we have looked at.

8               But that was the intent. That it seems  
9       to me that it would be more appropriate to do it  
10      that way. Then basically what you do is you get  
11      one number out of that that represents the actual  
12      energy consumed. And whether that energy is  
13      consumed in the distribution wiring or if it is  
14      consumed in the end-product, it really doesn't  
15      matter, it is all bunched together.

16             MR. FERNSTROM: Thank you, Larry.

17             MR. ALBERT: You're welcome.

18             PRESIDING MEMBER ROSENFELD: Are there  
19      any other comments on battery charger test  
20      procedures?

21             MS. MERRITT: Art, I believe we have a  
22      presentation by PG&E/Ecos Consulting, Dr. Paul  
23      Bendt, as soon as we can call up his slide pack.

24             DR. BENDT: Okay. I am Dr. Paul Bendt  
25      and I am here representing PG&E and Ecos

1 Consulting. We have been developing this test  
2 procedure over a period of more than five years.

3 And our basic message is we are very  
4 happy with the process that has taken place and we  
5 encourage the Energy Commission to go forward with  
6 the staff recommendation to adopt this test  
7 procedure. So my comments today are going to be  
8 fairly short because we believe the technical  
9 issues have been resolved and a lot of the  
10 previous meetings, in the informal meetings the  
11 interested parties have had.

12 So again, you have heard a lot about  
13 active mode. That the test procedure that has  
14 been proposed for the Title 20 is the only one  
15 that tests the active charging mode of battery  
16 chargers that has received a large amount of  
17 testing. So the other test methods that are  
18 available are testing only the inactive modes and  
19 we believe that testing the active, charging mode  
20 is important.

21 This test procedure has been developed  
22 over five years with the involvement of many  
23 stakeholders. We believe we have largely reached  
24 consensus. I can address a little bit of the  
25 power factor issues that Larry brought up. I'll

1 do that after the prepared presentation. But I  
2 also want to note that this test procedure has  
3 been used by several different laboratories at  
4 Ecos, at some of the DOE contractors and so on,  
5 and has been found to -- that when handed a  
6 product the laboratory technician can actually  
7 follow the instructions and know how to proceed.

8           There have been a number of proposals  
9 put forward that were just idea without actually  
10 being tested in a laboratory. And to have the  
11 laboratories run through these test procedures  
12 through hundreds of products I think is very  
13 important for demonstrating that the test  
14 procedure is actually going to be useful in  
15 practice.

16           The active mode is a very important  
17 issue. This is an older slide. But the active  
18 mode is about half of the total energy used by  
19 battery chargers. It's the purple area on this  
20 graph. And it represents a large amount of the  
21 savings. So if we are not catching the active  
22 mode in our testing we miss the opportunity to see  
23 the energy use and we miss the savings that would  
24 be there. So we strongly encourage the Energy  
25 Commission to adopt this test procedure that does

1 test and examine the active mode energy use.

2 The latest revisions to the test  
3 procedure include a new Part 2 covering non-road  
4 electric vehicles.

5 And while this is fairly new to the  
6 public sphere, it has really been introduced to  
7 and through the Energy Commission since this May,  
8 but the actual test procedure has been developed  
9 over a period of about ten years by Southern  
10 California Edison and has been largely accepted by  
11 the manufacturers of batteries and battery  
12 chargers for the non-road electric vehicles. And  
13 so although this was fairly recently introduced  
14 there had already been a lot of history of  
15 development and a lot of acceptance of the test  
16 procedure by the interested parties.

17 So this I believe has been really a  
18 pretty non-contentious addition. And we are glad  
19 to see that because it does introduce the  
20 opportunity of testing a broader scope of products  
21 and then introduces perhaps the opportunity for  
22 additional energy savings in that broader scope of  
23 products.

24 We are looking and requesting that the  
25 Energy Commission attempt to gather additional

1 data from manufacturers and other parties. The  
2 hundreds of products that have already been tested  
3 by these procedures we do believe gives a fairly  
4 good idea of what appropriate standards would look  
5 like and what appropriate standard levels will be.

6 The call for data is largely just to  
7 make sure that we haven't overlooked anything.  
8 That there aren't any categories of products that  
9 have performance that is significantly different  
10 from what we have seen in the hundreds of tests.  
11 So we believe that we can advise the Commission on  
12 appropriate standards levels, even without  
13 receiving more data. But we also believe that it  
14 would make the standards more robust and more  
15 certain that we are heading down the directions we  
16 want if we are able to gather more data.

17 We are particularly interested in  
18 getting more data on the non-road electric  
19 vehicles. At this point the testing for that has  
20 been done by Southern California Edison and by  
21 PG&E. Both of those utilities have the labs with  
22 the capabilities of doing these tests. We are  
23 also interested in products with special  
24 requirements.

25 One we have identified is emergency

1       lighting where the lights have to be illuminated  
2       continuously. And that requires a standby energy  
3       that may exceed what we would otherwise look at as  
4       standby energy in battery chargers.

5               We would like to know if there are other  
6       special products that have particularly safety  
7       obligations or safety regulations they must meet  
8       that we would like to be aware of to make sure  
9       that the standards are appropriate for those  
10      products.

11             As Harinder mentioned, we will provide a  
12      template. I believe there is a draft of that  
13      template already being discussed. We will make  
14      the details on that. We'd be looking at having  
15      that template and trying to collect data starting  
16      within the next week or so. And we would look to  
17      have data collected by November 6 so that it could  
18      be analyzed in order to make recommendations to  
19      the Energy Commission on standards levels early  
20      next year.

21             Just a quick mention of some of the  
22      activities at the Department of Energy, since that  
23      has been quite significant in how it make affect  
24      the California process. The Department of Energy  
25      at its meeting last Friday did declare that it

1 intends to include active mode in its test  
2 procedure and it is looking at October 2010, or  
3 earlier, as a date for publishing a test procedure  
4 that would include active mode. We would  
5 certainly encourage them to follow the lead of  
6 California and we hope that the test procedure  
7 that is being discussed here can also become the  
8 DOE test procedure.

9 Just as a general time line. We are  
10 looking at what we expect in the future. The top  
11 o this chart is actions by the CEC and the bottom  
12 is actions by the DOE. So you can see across the  
13 bottom that the DOE has, at this point, put  
14 forward minor changes to its test procedure to be  
15 consistent with EISA and has indicated its intent  
16 to include active mode in the future. That active  
17 mode would be included in 2010.

18 The main thing we want to address here  
19 is that as the CEC adopts the test procedure with  
20 the current process. We would then hope that the  
21 CEC can also put standards proposals forward in  
22 2009, beginning by publishing and establishing  
23 proposed standards in the early part of the year  
24 so that they could be finalized by late 2009 and  
25 could be effective at a date that is approximately

1 the time that the DOE would be developing  
2 standards federally. This gives an opportunity  
3 for the actions of the state of California to have  
4 a significant effect on the federal process.

5 I think that concludes the main  
6 presentation. We certainly thank the Energy  
7 Commission for its efforts over the past years and  
8 thank you for the opportunity today. We think the  
9 work that has been done has been very good and we  
10 would like to see this adopted as proposed in the  
11 45-day language.

12 And I guess I will address very briefly  
13 the power factor questions raised by Larry Albert.  
14 I believe that power factor in fact is the correct  
15 measurement to make electronically. There are two  
16 reasons for including it in the test procedure.  
17 One is that if you do measure it you can then  
18 start to measure the losses in the distribution  
19 system and start coming up with energy estimates  
20 of the energy potential that can be saved there.

21 If power factor is not measured then you  
22 are left with a total unknown. You have no idea  
23 of what the energy potential might be. So  
24 including it in the test procedure I believe is  
25 crucial because that starts providing us with the

1 information we need for going forward.

2 As far as including it in standards,  
3 there are many ways that that power factor could  
4 be included in the standards. And in fact it  
5 could be included in a calculation which produces  
6 what Larry Albert has asked for, that is, a  
7 consolidated measurement of total energy consumed,  
8 both by the product and by the distribution  
9 system. One can come up with at least reasonable  
10 estimates of that just by using the power factor  
11 as measured.

12 So we believe that having the power  
13 factor measured in the test procedure is the  
14 appropriate way of going forward and it does leave  
15 open a variety of possible standards that either  
16 include or don't include the distribution, wiring  
17 or include it in a variety of different ways. So  
18 we believe having that measurement is important  
19 and it provides the foundation for however that  
20 might be incorporated in the proposed standards.

21 And with that I thank you and I guess I  
22 again open this up for questions.

23 PRESIDING MEMBER ROSENFELD: Questions  
24 or comments?

25 MR. RIDER: We have some questions on

1 the phone.

2 PRESIDING MEMBER ROSENFELD: I'm sorry,  
3 did somebody say something?

4 MR. RIDER: Yes. There are some  
5 questions on the phone.

6 PRESIDING MEMBER ROSENFELD: On the  
7 phone?

8 MR. RIDER: Yes.

9 MR. MORRIS: Yes, hello?

10 DR. BENDT: Yes.

11 MR. MORRIS: This is Wayne Morris from  
12 AHAM.

13 DR. BENDT: Good morning, Wayne.

14 MR. MORRIS: Thank you Paul. And I  
15 thank the Commissioners and the staff for an  
16 excellent job and presentation, thank you.

17 Just a couple of quick comments. I  
18 would like to echo the comments that Larry Albert  
19 made and applaud the work of the staff. They have  
20 worked very hard to make sure that all of the  
21 stakeholders had an adequate opportunity to raise  
22 questions and concerns during the development of  
23 this test procedure. It has truly been a  
24 cooperative working activity and we thank them for  
25 all of their efforts in that.

1                   Just to point out a couple of quick  
2           things. We agree with the comments that Larry  
3           Albert made in regard to both the development and  
4           the process. Also that the test procedure itself,  
5           we believe it is appropriate at this time to have  
6           a test procedure that measures both the active  
7           mode, the no battery mode and the maintenance  
8           mode.

9                   And I think the graph that Dr. Bendt  
10          provided which showed nearly one-half the energy  
11          in this maintenance mode is a good example of why  
12          we had raised this issue back three years ago.  
13          And why we believe that measuring battery chargers  
14          under a external power supply test procedure which  
15          does not have any measurement of maintenance mode  
16          was inappropriate. Now this has been corrected  
17          and it is very appropriate for that situation.

18                   I would also mentioned that at the  
19          Department of Energy hearing last week AHAM along  
20          with PTI strongly encouraged the US Department of  
21          Energy to modify its test procedure to include an  
22          active mode measurement. We call it an E-24  
23          measurement. It is relatively simple to do under  
24          the DOE test procedure, to take that measurement.  
25          It really would not cause a major disruption to

1 the DOE's test procedure.

2 And we truly do not understand why it  
3 would take from now until October of 2010 for the  
4 Department to modify its test procedure. We urged  
5 the Department to do that this fall and have it  
6 done by the end of this calendar year so that  
7 there is one test procedure operating in the  
8 United States and not one for California and one  
9 for the rest of the nation. That does not seem to  
10 make too much sense to us.

11 We also urged them to consider the  
12 adoption of changes in the definitions section so  
13 as to bring those sections of the California  
14 Energy Commission test procedure into alignment  
15 with the Department of Energy test procedure under  
16 10 CFR 430.

17 I would also mention that in the data  
18 call and in the template we would hope that in  
19 addition to the measurements and the information  
20 that it should be noted what type of battery  
21 charger the measurements are being made against.  
22 And particularly under the definitions that have  
23 been proposed for adoption in the CEC test  
24 procedure. So that battery chargers can be  
25 identified as to whether they are of the

1 detachable, integral or swappable type so that we  
2 can have a better understanding of that. Because  
3 as we begin to roll up that data that will help us  
4 in the setting of the standard situation.

5 Lastly I would just like to address in a  
6 very short amount the comments that, Dr. Bendt  
7 that you made in regards to power factor. I would  
8 say that we are in agreement with the comments  
9 that Larry Albert made.

10 I understand your comment about having  
11 it in the test procedure. We don't believe it is  
12 going to show for many of the smaller-type battery  
13 chargers that are used in appliances, in power  
14 tools, that this will result in a significant  
15 amount of energy savings.

16 We do understand that it would be added  
17 to the test procedures for the purposes of  
18 gathering energy. But we do believe that the way  
19 that this should be done is by doing it in  
20 accordance with the impedance that would be seen  
21 in the actual household environment and not in the  
22 manner that is being presented. We don't think  
23 that that would be a major change in situation.

24 And also to your point, Dr. Bendt, about  
25 adding the total amount of energy from both the

1 distribution as well as the product. That gets  
2 into the site source issue that we raised on a  
3 number of occasions. We don't believe that it is  
4 appropriate to tag the energy of the actual site  
5 against the product itself. So we think that that  
6 needs for some modification.

7 Other than that we agree with the test  
8 procedure as it is presented. We think that the  
9 modifications could be made at a later date to  
10 bring it into alignment on the power factor issue.  
11 I would, again, thank the staff for their very  
12 diligent work in both the process and also in  
13 cooperation with a number of changes and  
14 conditions to this test procedure, as evidenced by  
15 just the number of the test procedure alone.

16 Thank you.

17 DR. BENDT: Yes, thank you, Wayne.

18 PRESIDING MEMBER ROSENFELD: I have a  
19 question for you, Paul. I have never made a power  
20 factor measurement in my life. Do I understand  
21 that the answer that you get for the power factor  
22 of a battery charger system depends slightly on  
23 the impedance of the line which is feeding the  
24 system?

25 DR. BENDT: Yes. It does depend

1 slightly on the line that is feeding it. And the  
2 general procedure, and this has been used in the  
3 IEC, for example, in their study of harmonics,  
4 which is a closely related problem but is not  
5 quite the same problem, that the general test  
6 conditions are that it should be measured with a  
7 low impedance source. Now that allows you to  
8 measure -- a low impedance source with a very  
9 clean sine wave is the ideal measurement. From  
10 that one can then largely derive estimates of what  
11 power would be lost if you had different  
12 impedances of sources.

13 So the general procedure is in a  
14 laboratory to test it with a low impedance. And  
15 then even though you know in actual practice that  
16 there is impedance upstream, it is the low  
17 impedance test that is generally used in order to  
18 determine the behavior of the product. Then one  
19 can use that known behavior in order to determine  
20 the upstream impacts.

21 PRESIDING MEMBER ROSENFELD: And so our  
22 friends on the phone are suggesting that the  
23 impedance be more appropriate for a typical  
24 residential circuit? Is that significantly  
25 different from what you call a low impedance test?

1 DR. BENDT: Yes it is. There is enough  
2 impedance difference there. It doesn't make a big  
3 effect in the power factor but it essentially then  
4 becomes a question of are you putting the power  
5 factor measurement -- Let's see if I can wave my  
6 hands enough. One has your power source, one has  
7 the impedance of the line that connects it. And  
8 then one has the product.

9 And there essentially is a question of  
10 whether you are putting your power meter between  
11 the source and the line or whether you are putting  
12 your power meter between the line and the product.  
13 That then determines, in a sense, how you deal  
14 with the losses in the line itself. Are they just  
15 automatically included in your measurement or are  
16 you measuring something that is at the product  
17 that has a distorted wave form? In either case  
18 you really want a low impedance source.

19 What I am describing as the standard for  
20 testing, that is used for testing harmonics in  
21 Europe, is they actually do the testing without a  
22 line in-between. They use a low impedance source  
23 connected directly to the product. But then  
24 knowing the current that is drawn by the product  
25 allows you to estimate what the losses will be

1 through various different line impedances.

2 And the advantage of that then is that  
3 as you have different impedances you can estimate  
4 the losses in a variety of different situations.  
5 Whereas if you measure the losses in only one  
6 situation then you have the -- essentially you get  
7 the losses for only one possible distribution  
8 impedance.

9 Where, as I say, the procedure that  
10 measure the current with a clean wave form and  
11 then calculates the losses allows you to calculate  
12 them for a wide variety of different possible  
13 distribution systems. And we believe that that  
14 can then be used to get a much better idea of what  
15 the losses will be in a larger, in an actual  
16 setting.

17 MR. FERNSTROM: Commissioner?

18 PRESIDING MEMBER ROSENFELD: Yes, Gary.

19 MR. FERNSTROM: Gary Fernstrom. If I  
20 could add something. One of the principal  
21 advantages of approaching this the way Dr. Bendt  
22 suggests is that the losses from multiple products  
23 with poor power factors are not simply additive,  
24 they are compounding. And by measuring the power  
25 factor and approaching this analytically you can

1 get a much better estimate of what the effect of  
2 multiple products is.

3 PRESIDING MEMBER ROSENFELD: Okay, Gary,  
4 thank you. Okay. Do we have other, somebody else  
5 on the phone?

6 MR. ALBERT: Hello.

7 ADVISOR TUTT: We hear you.

8 MR. ALBERT: Okay. This is Larry Albert  
9 again from Black and Decker representing PTI. The  
10 comment about --

11 PRESIDING MEMBER ROSENFELD: I'm sorry,  
12 Larry, would you give us your last name again.

13 MR. ALBERT: I'm sorry, Albert, A-L-B-E-  
14 R-T.

15 PRESIDING MEMBER ROSENFELD: Again,  
16 okay.

17 MR. ALBERT: Okay, again. The comment  
18 about taking the measurement and performing the  
19 evaluation analytically is correct providing the  
20 impedance that you make the measurement under is  
21 the impedance under which you are going to  
22 evaluate it.

23 It is not truly possible to be able to,  
24 for example, take the measurement with a zero  
25 impedance source, and take the power factor at

1       that point and be able to predict how the power  
2       factor will change under a variety of different  
3       other source impedances without knowing something  
4       about the input impedance of the battery charger  
5       itself. Consequently, if the measurement of power  
6       factor is done under a zero impedance condition  
7       the power factor would be unrepresentatively low.

8               And therefore will -- And therefore if  
9       you were to apply the effect of that additional  
10      current to the scenario where you anticipated  
11      having a higher source impedance you would get an  
12      unrealistically large amount of additional loss.

13             The test procedure that is used in the  
14      IEC test demanded a specific source impedance.  
15      That is intended to evaluate, it tends to  
16      represent what they believe to be a specific  
17      impedance that they can relate to a variety of  
18      different installations. So in that way it  
19      prescribed what that impedance is going to be.  
20      And so what that does is it provides you with a  
21      more accurate reflection of what the power factor  
22      is going to be.

23             So if, for example, you measure it with  
24      a zero impedance source, then obviously the losses  
25      associated with that would also be zero. So that

1       can't be a meaningful measurement.  If the  
2       measurement was made with, for example, an  
3       impedance of half an ohm or something like that,  
4       that would give you a higher power factor.  
5       However, that power factor would be the right  
6       value to use for any calculation that was being  
7       used with that similar source impedance.

8               But the problem is there is no way of  
9       evaluating it accurately, measured at zero and  
10      applying it to some other impedance, because that  
11      impedance affects the power factor.

12             DR. BENDT:  And this is Dr. Bendt.  I  
13      would agree with Larry that the source impedance  
14      does result in small changes in the measured power  
15      factor.  I don't believe that those changes are  
16      going to be the big factors that affect the energy  
17      savings.  I think that while it is technically  
18      correct we are looking at rather small variations  
19      there and I don't think those are the big issues.  
20      But Larry, I am happy to continue working that  
21      out.  As we go into talking about proposed  
22      standards I think we are going to have a very  
23      interesting conversation proceeding on this.

24             MR. ALBERT:  Looking forward to it.

25             PRESIDING MEMBER ROSENFELD:  I will make

1 the comment, of course, that in the case -- we  
2 have, for good or for bad, blundered into a system  
3 in which we measure total energy at the device.  
4 That is, when one says this is a 75 watt  
5 incandescent lamp, we all know that there are US-  
6 wide, I don't know, what, six percent transmission  
7 losses and three percent distribution losses and  
8 so forth, and we just ignore that. So putting in  
9 for power factor only is interesting to calculate  
10 but it is not the world we have blundered into, is  
11 it?

12 DR. BENDT: And I would agree with you  
13 that the effects here are not huge effects. The  
14 amount of energy that is available by improving  
15 power factors across all products probably is the  
16 sort of three to ten percent that you are talking  
17 about. Some products contribute to that more than  
18 others and we would like to be aware of that and  
19 be aware of the energy costs that go with that.

20 PRESIDING MEMBER ROSENFELD: I agree.  
21 Well, I guess you experts will figure it out.

22 Anybody else on the phone?

23 MS. BARONAS: Dr. Rosenfeld, do you hear  
24 me?

25 PRESIDING MEMBER ROSENFELD: Yes ma'am.

1                   MS. BARONAS: Oh, wonderful. I am the  
2 chair of the IEEE Portable Computer Battery  
3 Working Group and I would like to comment about  
4 your references --

5                   PRESIDING MEMBER ROSENFELD: Hold it, we  
6 need to know your name.

7                   MS. BARONAS: I apologize. My name is  
8 Jean Baronas. I am an employee of Sony  
9 Electronics.

10                  PRESIDING MEMBER ROSENFELD: And can you  
11 spell Baronas.

12                  MS. BARONAS: B-A-R-O-N-A-S.

13                  PRESIDING MEMBER ROSENFELD: And you are  
14 a employee of?

15                  MS. BARONAS: Sony Electronics.

16                  PRESIDING MEMBER ROSENFELD: Thank you,  
17 Jean, go ahead.

18                  MS. BARONAS: Okay. I am also the chair  
19 of the IEEE Portable Computer Battery Working  
20 Group. And I wanted to comment on the references  
21 in the draft on page three. The IEEE 1625 has  
22 been revised, it has a new title. And the  
23 anticipated publication date is 26 September 2008.

24                  I would appreciate it if you would adopt  
25 this new reference, which is called IEEE Standard

1       for Rechargeable Batteries for Multicell Mobile  
2       Computing Devices. This 2008 standard is more  
3       indicative of the state of the art and represents  
4       many companies' contributions. By the way, I did  
5       bring this up at the May meeting that the  
6       Commission held in Sacramento.

7               And another point. I just want to thank  
8       Dr. Bendt for Section F of the draft on page 15  
9       where access to the battery for discharge test is  
10      addressed. We really appreciate that the  
11      manufacturers' instructions for disassembly of the  
12      battery -- our reference there and that the  
13      operator is recommended that they follow those  
14      instructions.

15             Thank you, this concludes my comments.

16             PRESIDING MEMBER ROSENFELD: Melinda,  
17      did you get that information or do you need an e-  
18      mail from her?

19             MS. MERRITT: We --

20             PRESIDING MEMBER ROSENFELD: I can't  
21      hear you, obviously.

22             MS. MERRITT: Hi, this is Melinda. We  
23      will have the transcript from this meeting so we  
24      will have everything exactly as spoken. And we  
25      will probably follow up with an e-mail with Jean.

1                   MS. BARONAS: Thank you, Melinda. I'll  
2 be in touch.

3                   PRESIDING MEMBER ROSENFELD: Thank you  
4 very much, Jean. We need all the help on these  
5 details we can get.

6                   MS. BARONAS: Okay, thanks everyone.

7                   MS. MERRITT: So I think that concludes  
8 our --

9                   ADVISOR TUTT: Before you conclude I  
10 would just like to say one thing. The staff has  
11 gotten a lot of kudos for the work involved in the  
12 battery charger test procedure and I would second  
13 those. I think that it has been a long road and  
14 the staff has done a wonderful job here. But I  
15 also would like to say that Ecos Consulting and  
16 AHAM and PTI have worked very well together and  
17 with staff on this and it has been a pleasant  
18 process all along.

19                  PRESIDING MEMBER ROSENFELD: Thank you,  
20 Tim. I echo all of these warm feelings.

21                  MS. MERRITT: Thank you. And I do too.  
22 It's been a very informative and a very congenial  
23 process. Very welcome. So that concludes our  
24 section on the battery charger system test  
25 procedure.

1                   Next we are going to take a moment to  
2                   download the presentation by Leo Rainer on the  
3                   next topic and also to quickly download the  
4                   presentations that we have received so we can make  
5                   some copies available.

6                   PRESIDING MEMBER ROSENFELD: Melinda,  
7                   you wanted a couple of minutes and we are a few  
8                   minutes ahead of schedule anyway. What do you say  
9                   we take a five minute bio or coffee break?

10                  MS. MERRITT: Sounds great.

11                  PRESIDING MEMBER ROSENFELD: Sounds  
12                  great. Let's start again at quarter to 11.

13                  (Whereupon, a recess was taken off  
14                  the record.)

15                  PRESIDING MEMBER ROSENFELD: Okay, I am  
16                  chastened. The five minute coffee and bio break  
17                  idea doesn't work. Next time I'll make it ten.

18                  Okay, I guess we are on to residential  
19                  pool pumps and portable electric spas. And we  
20                  have a staff report, Melinda?

21                  MS. MERRITT: Correct. We have Betty  
22                  Chrisman from the program staff who will make an  
23                  overview of this topic.

24                  MS. CHRISMAN: Thank you. Once again  
25                  for the record, my name is Betty Chrisman and I am

1 with the Energy Commission's Appliance Efficiency  
2 Program staff.

3 There are a few inconsistencies in the  
4 current portable electric spa test method. The  
5 current test method specifies minimum water  
6 temperature but no maximum; maximum ambient air  
7 temperature but no minimum temperature; and  
8 reporting of insulation R-values, which are not  
9 needed to determine energy efficiency.

10 The proposed regulatory language will  
11 insert two-sided temperature tolerances for both  
12 water and ambient air and remove the spa  
13 insulation R-value and spa cover R-value from data  
14 reporting requirements.

15 For residential pool pumps. In 2004 the  
16 Energy Commission adopted cost-effective two-  
17 tiered standards for residential pool pumps.  
18 These standards became effective January 1, 2006  
19 and January 1, 2008.

20 These standards are current law.

21 The standard requires use of multi-speed  
22 motors and controls for pool pumps greater than  
23 one horsepower.

24 The current scope of the appliance  
25 efficiency regulations does not include

1 replacement pool pump motors installed in existing  
2 residential pool pumps.

3 The original intent of the standards  
4 adopted in 2004 was to include both pool pump and  
5 motor combinations and replacement pool pump  
6 motors.

7 The proposed regulations require: All  
8 replacement motors with a capacity of one  
9 horsepower or more to have at least two speeds,  
10 clarifies the definitions, and corrects the  
11 current standard to explicitly include replacement  
12 pool pump motors in the scope.

13 Additionally, testing and data  
14 certification requirements are added for Curve C  
15 in order to facilitate compliance with the Title  
16 24 building standards.

17 Data collection is being included to  
18 show compliance with the pump control  
19 requirements.

20 And the existing marking requirements  
21 are being updated in order to better inform  
22 installers and inspectors of the two-speed  
23 controller requirements found in Title 20.

24 The proposed regulations are feasible  
25 and cost effective. The proposed amendments do

1 not increase or decrease the required efficiency  
2 of the existing standard. The cost-benefit  
3 analysis has been updated to better represent the  
4 market conditions of 2008.

5 Specifically staff's analysis shows that  
6 the proposed standard is cost-effective,  
7 reflecting an incremental cost of improvement per  
8 unit of \$420. With the reduced total costs to the  
9 consumer over the design life of the residential  
10 pool pumps equaling \$1,223. Residential pool  
11 pumps current annual statewide energy use is 1,760  
12 million kilowatt hours as of 2008.

13 This concludes staff's presentation on  
14 the proposed changes to portable electric spas and  
15 residential pool pumps. Thank you.

16 PRESIDING MEMBER ROSENFELD: Thank you,  
17 Betty. We have some blue cards. Is there anybody  
18 first in the room who wants to make some comments?

19 MS. MERRITT: Art, I believe first we  
20 will be hearing from Pacific Gas and Electric  
21 Company and Davis Energy Group. This is Leo  
22 Rainer.

23 PRESIDING MEMBER ROSENFELD: Sorry, Leo,  
24 I goofed.

25 MR. RAINER: I am Leo Rainer with Davis

1 Energy Group, here representing PG&E. I would  
2 like to thank the Commission for allowing us to  
3 speak on this and --

4 PRESIDING MEMBER ROSENFELD: Microphone,  
5 Leo.

6 MR. RAINER: A little more?

7 MR. PENNINGTON: Speak up a little  
8 louder.

9 MR. RAINER: How is that?

10 PRESIDING MEMBER ROSENFELD: You're  
11 tall.

12 MR. RAINER: I'm tall and I don't like  
13 to bend over this far. But I'll do it.

14 (Laughter)

15 MR. RAINER: I am going to talk about  
16 pool pumps first. I didn't get things in order.  
17 The Commission talked about spas first. I could  
18 just cover spas quickly and then we could go to  
19 pools and split up the questions. Melinda, should  
20 we just cover spas?

21 MS. MERRITT: I would just go through.

22 MR. RAINER: Okay. I am going to do a  
23 little bit of discussion before my presentation to  
24 try to bring people up to speed on horsepower.  
25 That has been one of the contentions.

1           The regulations are written in terms of  
2   total horsepower. The pool industry discusses  
3   pool pumps in terms of nameplate horsepower. So  
4   when someone in the industry talks about a three-  
5   quarter horse motor they are talking about a  
6   three-quarter horse nameplate motor. Now that is  
7   typically a full-rated motor, meaning it has a  
8   service factor of 1.67. And that means it has a  
9   total horsepower of 1.25.

10           Now I won't go into it could also be an  
11   upgraded motor, meaning it has like a 1.2 service  
12   factor and it has a different total horsepower.  
13   I'm going to stick with typical industry  
14   conventions, which is full-rated. And in my  
15   discussion I am going to be using industry  
16   nameplate. I am going to be talking about three-  
17   quarter horse motors, one horse motors.

18           In the regulation we use total  
19   horsepower and that's because total horsepower is  
20   the only thing you really can regulate. If you  
21   regulated nameplate horsepower you would allow  
22   games with the service factor and you could come  
23   up with any nameplate horsepower you wanted by  
24   adjusting the service factor. So that's the  
25   reason that the standards are written in terms of

1 total horsepower.

2 PRESIDING MEMBER ROSENFELD: Leo, let me  
3 exhibit my ignorance. I have never a cite like  
4 that before. That's a huge service factor. Can  
5 you say a word or so about my deep confusion.

6 MR. RAINER: Service factor. The reason  
7 for service factor, as most people know, is really  
8 for safety. You need a safety factor when you are  
9 installing equipment. The service factor for  
10 small pumps is enormous. And the reason that it  
11 has been -- The industry can probably help me out.

12 But probably about 40 years ago the  
13 industry was having problems with failures in pool  
14 pumps due to their installation being outside in  
15 hot conditions and the weather and they asked for  
16 a higher service factor so that they could replace  
17 the same size horsepower pump and still get  
18 lifetime out of it. So they increased the more  
19 typical 1.25, 1.4 service factor up to 1.67 on the  
20 smaller pumps. As you get up larger you can see  
21 you get service factors that are more typical of  
22 what service factors really should be.

23 What also happened is once you got these  
24 large service factors you then also got the  
25 manufacturers playing games with the service

1 factor to come up with up-rated pumps. So that  
2 you could sell a three-quarter horse up-rated  
3 pump, which would be a --

4 Let's say you could sell a one horse up-  
5 rated. It would be one horse with like a 1.25  
6 service factor, which would have the same total  
7 horsepower as a three-quarter full-rated. So you  
8 could say, I'm going to sell you a one horse motor  
9 for the same cost as a three-quarter. Now it's  
10 the same motor. They were playing games and  
11 saying bigger is better and larger horsepower. So  
12 now you have not only is the service factor large  
13 but it also doesn't always mean anything.

14 But this is what the industry is at  
15 right now. We tried to help somewhat by requiring  
16 the labeling of total horsepower on both the pump  
17 and the motor. So that when motors get replaced  
18 -- What is important is that you do not replace a  
19 motor that is smaller total horsepower than what  
20 is on the pump currently because then you will  
21 burn the motor out. It's okay to replace, put too  
22 large a motor on an existing pump but too small a  
23 one is dangerous.

24 PRESIDING MEMBER ROSENFELD: I'm living  
25 in a world in which if I look at the nameplate on

1 a three-quarter horsepower motor, but I measure  
2 its load while it is actually running it will be  
3 way up there at --

4 MR. RAINER: We hope it won't be up at  
5 1.25. Hopefully that three-quarter horse is on a  
6 three-quarter horse pump.

7 PRESIDING MEMBER ROSENFELD: Okay.

8 MR. RAINER: And it might be drawing,  
9 let's say, one horse. It's probably putting out  
10 more than three-quarters.

11 PRESIDING MEMBER ROSENFELD: But not  
12 1.25.

13 MR. RAINER: But hopefully it's not at  
14 1.25 because then you would be exceeding the  
15 service factor and you would have a shorter life.  
16 But yes, it is probably drawing significantly more  
17 than three-quarter.

18 MR. FERNSTROM: Commissioner, if I could  
19 add something. This is Gary from PG&E.  
20 Representatives from Jandy have told me that not  
21 only the motors but the pumps in fact have a non-  
22 written, non-published, non-labeled service factor  
23 as well. So you could well get a three-quarter  
24 horsepower nameplate product that is in actuality  
25 a one horsepower pump in terms of the impeller and

1 the load that is placed on the motor.

2 PRESIDING MEMBER ROSENFELD: The  
3 regulations that we just went through are all in  
4 terms of nameplate.

5 MR. RAINER: No, they are in terms of  
6 total horsepower.

7 PRESIDING MEMBER ROSENFELD: They are in  
8 terms of total horsepower.

9 MR. RAINER: And the reason for that is  
10 because that -- Total horsepower does mean  
11 something.

12 PRESIDING MEMBER ROSENFELD: Yes.

13 MR. RAINER: It is not used in industry  
14 and that is the difficulty. Is that we are  
15 talking total horsepower, industry talks nameplate  
16 horsepower.

17 MR. FERNSTROM: And much to my amusement  
18 the highest service factor I have seen is 2.1.  
19 Where in fact the motor is twice as big or has a  
20 total horsepower rating 2.1 times what the  
21 nameplate says.

22 MR. RAINER: So this is really -- I am  
23 going to be talking about three-quarter horsepower  
24 motors quite a bit here. When I say three-quarter  
25 horsepower motor, just to let you know, that's a

1 three-quarter horsepower, full-rated, 1.67 service  
2 factor, 1.25 horsepower total. So in other words,  
3 under the current regulations it would be required  
4 to be two-speed.

5 PRESIDING MEMBER ROSENFELD: Thank you  
6 for getting --

7 MR. RAINER: Maybe we can come back to  
8 this after.

9 PRESIDING MEMBER ROSENFELD: -- getting  
10 me partially unconfused.

11 MR. RAINER: You are not the only one.

12 MR. FERNSTROM: I was going to say, if  
13 we could add any more confusion to the discussion  
14 we would be delighted.

15 (Laughter)

16 MR. RAINER: I am going to address some  
17 of the IPSSA issues. The Independent Pool and Spa  
18 Service Association submitted comments in  
19 September based on the proposed language. And I  
20 am going to address specifically their concern  
21 that two-speed pool pumps operating on low speed  
22 do not work well with sand filters, erosion  
23 chemical feeders and solar heaters.

24 And then they also provided an example  
25 to show that two-speed, three-quarter horse,

1       that's a three-quarter horse nameplate motor, does  
2       not save energy compared to a single-speed three-  
3       quarter.

4               And that the use of three-quarter horse  
5       replacement motors by the industry in order to  
6       downsize larger pumps provides significant energy  
7       savings. And by requiring that replacement motors  
8       be two-speed we are removing that significant  
9       energy savings opportunity for the industry.

10              So just a note about things we do agree  
11       upon. I would like to make a comment that IPSSA  
12       has been very agreeable with our discussions and  
13       that we both are on the same side of the page as  
14       far as both wanting energy efficiency for swimming  
15       pools. They do their best to provide energy  
16       efficient pool pumps for their customers. And  
17       they have their concerns as far as serviceability,  
18       we have our concerns as far as energy savings.

19              We have had a number of very good  
20       meetings. We have come to agreement on a number  
21       of assumptions that are critical in terms of  
22       deciding on the energy efficiency. One is the  
23       average number of hours of operation of a single-  
24       speed pump. We are going to be using 4.2 hours  
25       per day. Our initial analysis used 4.6 so we have

1       come down to 4.2. I'll talk about their initial  
2       calculations used 3.75.

3               We are going to use two hours per day of  
4       high-speed operation. In other words the two-  
5       speed pool pump has to operate at high-speed for  
6       two hours to provide operation of the pool cleaner  
7       and the skimming operation. So that's two hours  
8       per day.

9               And then there is some question as to  
10      what pool system curve should be used in terms of  
11      analysis. We had used the curve A, which is the  
12      lowest pressure drop of the two curves that were  
13      in the original standards. We used that for our  
14      analysis.

15              IPSSA had proposed using some data that  
16      they had gathered for a curve that is about  
17      halfway between A and C. C is the less-  
18      restrictive new curve that is being proposed for  
19      use with Title 24. We think that is a reasonable  
20      curve to use so that's the one we used for the  
21      analysis. Actually the curve that is used, A, C  
22      or even B, doesn't have a large effect on the  
23      cost-effectiveness because of the characteristics  
24      of the curves.

25              So those are our agreements. I am going

1 to talk a little bit about the other comments.

2 First, sand filters.

3 PRESIDING MEMBER ROSENFELD: Leo.

4 MR. RAINER: Yes.

5 PRESIDING MEMBER ROSENFELD: Go back

6 one.

7 MR. RAINER: I will try.

8 PRESIDING MEMBER ROSENFELD: Good luck.

9 MR. RAINER: There, I got the right one.

10 PRESIDING MEMBER ROSENFELD: I live in  
11 Berkeley, I don't know much about swimming pools.  
12 The two hours a day of high-speed operation. You  
13 say that is necessary to do skimming and what?

14 MR. RAINER: Operating of automatic pool  
15 cleaners. Those are the little things that wander  
16 around the pool, they spray water around, mix the  
17 water. Those don't operate well on low speed,  
18 they need the higher pressure to operate. So in  
19 order to get distribution and cleaning -- and  
20 skimming operation is the removal of surface  
21 debris to the skimmer, which is the top return in  
22 a pool.

23 PRESIDING MEMBER ROSENFELD: And it is  
24 generally accepted that we are stuck with those  
25 two devices at high-speed?

1                   MR. RAINER: I actually don't have good  
2 numbers. I have numbers anywhere from 60 to  
3 greater than 90 percent of pools have automatic  
4 pool cleaners. So I think two hours is on the  
5 high side but we are willing to -- we had come up  
6 with a 1.3 hour average but we are willing to come  
7 up with a two hour agreement. But I think that is  
8 quite conservative. I don't think -- There are  
9 very few pools that would need longer than two  
10 hours of high-speed operation.

11                   PRESIDING MEMBER ROSENFELD: Thank you.

12                   MR. RAINER: So sand filters. Sand  
13 filters represent a very small fraction of the  
14 pools in California. It's very regional in terms  
15 of pool equipment, both nationally and within  
16 California. Within California about ten percent  
17 of pools in the PG&E territory have a sand filter,  
18 almost none in Southern California have sand  
19 filters. So it's less than ten percent of pools  
20 have sand filters.

21                   But there is some concern that operating  
22 at low speed does not use the sand bed. And this  
23 is true that when you are running at low speed you  
24 only use about the top two inches of the sand  
25 filter. It doesn't fully penetrate the sand bed.

1       However, in discussion with -- I have talked with  
2       three pool experts who say there is not a problem  
3       using sand filters. And that operating on high  
4       speed at least a half-hour will allow the dirt to  
5       penetrate the full depth of the bed. And that we  
6       are already assuming two hours of operation on  
7       high speed so this is no additional high-speed  
8       operation that would be required for same filters.

9               Erosion chemical feeders. This is a  
10       long name for what would be called an automatic  
11       chlorinator. These are devices that automatically  
12       add chlorine or bromine sanitizing chemicals to  
13       the pool water. They work by putting solid  
14       chlorine into a canister that water is run over  
15       and then it is eroded. In other words it just  
16       dissolves into the water. They require what are  
17       called on-line or in-line -- off-line or in-line.

18              The in-line ones are actually in the  
19       line of the pool and they are typically not  
20       recommended because they add restriction. Off-  
21       line have a pipe around the heater and the filter  
22       to provide flow through the device.

23              Talking to manufacturers they say that  
24       they need about 20 gallons per minute of flow.  
25       And three-quarter horse, two-speed pumps, which

1 are the smallest that we are requiring, can  
2 provide 20 gallons per minute on the most  
3 restrictive curve, which is Curve B.

4 Also discussing with other pool experts,  
5 these can be adjusted. There is an adjustment  
6 knob on them. And we are operating them at high  
7 speed for two hours per day and then low speed for  
8 the rest of the time. You can adjust that  
9 adjustment so that your chemical balance is  
10 correct. You may take a little bit of time to get  
11 it correct when you go from a one-speed to a two-  
12 speed but there is not a problem in actually  
13 getting it set up.

14 And lastly, solar heaters. A fraction  
15 of pools, about 12 percent of pools in California  
16 have active solar heating. These are panels  
17 through which the pool water is circulated at the  
18 times of the year when you would like additional  
19 heating to the pool.

20 The problem with solar collectors is you  
21 add a significant amount of head because you are  
22 putting these collectors on the roof, typically.  
23 Maybe even the roof of a two-story house. They do  
24 add significant head and the need to at least  
25 start them on high speed. And there are

1 definitely collectors which will not maintain flow  
2 on low speed, at least without changes to the  
3 system.

4 We think this is a valid concern so we  
5 have adjusted our calculations to account for  
6 this. Again, the current residential appliance  
7 saturation survey shows that 12 percent of pools  
8 have solar pool heaters. We assume that about 85  
9 percent of these have a single pump that would  
10 require it to operate on high-speed and that we'd  
11 operate it about three months of the year to add  
12 additional heating. All those together mean that  
13 about three percent of the pools would have to  
14 operate full-time on high speed. You would not  
15 get the energy savings of operating on low speed.

16 There is a simple fix if you want to use  
17 a two-speed pump with solar, is to add a booster  
18 pump to the low speed operation, but that's an  
19 added cost. But that's a much more efficient way  
20 to operate this whole --

21 PRESIDING MEMBER ROSENFELD: What would  
22 be the payback time for that instead of paying  
23 your extra electric bill?

24 MR. RAINER: I didn't analyze that but  
25 that would be a good thing to add. But that's,

1       again, that isn't something that is in the  
2       regulation. We can't require -- This being Title  
3       20 we can't require that people who buy a two-  
4       speed pool pump tell us whether they have a solar  
5       system and they need to purchase a booster pump.  
6       But that is something that could be addressed in  
7       Title 24.

8               Now I am going to talk about the --

9               MR. FERNSTROM: Excuse me, Leo.

10              MR. RAINER: Yes.

11              MR. FERNSTROM: This is Gary from PG&E.

12       If I could add, for those consumers that have them  
13       I think there is a good voluntary energy  
14       efficiency program opportunity with solar pool  
15       heating that has not to do with the natural gas  
16       that might be saved but the reduction in electric  
17       pumping load if the solar collector presented less  
18       resistance to the flow of water.

19              PRESIDING MEMBER ROSENFELD: That means  
20       a different design for a new solar collector.  
21       This isn't a retrofit measure, Gary, that you are  
22       suggesting, is it?

23              MR. FERNSTROM: No, it wouldn't be a  
24       retrofit measure because it is contingent upon the  
25       solar collector itself.

1           PRESIDING MEMBER ROSENFELD: But it  
2 could be an incentive program.

3           MR. FERNSTROM: I believe there is an  
4 opportunity, yes, for that.

5           MR. RAINER: Okay, I am going to address  
6 one of the other IPSSA comments, which is the  
7 economics of changing a three-quarter horse,  
8 single-speed pump to a three-quarter horse, two-  
9 speed pump, as would be required if replacement  
10 motors of greater than one total horsepower are  
11 required to be two-speed.

12           The initial IPSSA analysis resulted in a  
13 -62 kilowatt hours per year savings. So obviously  
14 not cost-effective. Some of the assumptions in  
15 there. One is the single-speed operation of 3.75  
16 hours per day. That's been increased to 4.2.  
17 Their estimate of low-speed power was based on a  
18 full-load amp or amp measurements and the voltage  
19 resulting in a low-speed power of 540 watts.

20           This doesn't take into account power  
21 factor, which we have been discussing in the  
22 previous discussion. Power factor on the low-  
23 speed, because these are small motors, is  
24 typically about 60 percent. And measured low-  
25 speed operation from listed pumps at low-speed is

1 typically between 300 and 350 watts. The analysis  
2 that we are doing used 342 watts for low-speed  
3 operation.

4 Also the analysis looked at a single  
5 pump pair, just the Pentair Whisperflow in single-  
6 speed and two-speed. Actually that comparison is  
7 favorable to two-speed. But we felt that we  
8 should look at the entire set of two-speed pumps  
9 available so we looked at a set of seven pumps and  
10 took the average. And that actually is more  
11 conservative than looking at just the Whisperflow  
12 pair.

13 The results of using the above  
14 assumptions, including three percent to operate on  
15 the high speed to account for solar, is that there  
16 is a savings of 516 kilowatt hours per year for a  
17 pool going from a three-quarter horse to a three-  
18 quarter horse two-speed. However, the cost-  
19 effectiveness is more dramatic. The benefit-to-  
20 cost ratio comes out almost exactly at one. So  
21 this is a balanced measure.

22 However, the three-quarter horse  
23 represents about one-third or less than one-third  
24 of the current pool pumps in California. So I am  
25 unsure what the total program looks like.

1           The blue bars here are the savings for  
2       each of the nameplate horsepower pumps. Starting  
3       on the left the three-quarter horse, one horse,  
4       one-and-a-half horse and two horse. About less  
5       than a third of current pumps are three-quarter,  
6       another third are one horse. About 20 percent are  
7       one-and-a-half horse and about ten percent are two  
8       horse currently in California.

9           As you can see the energy savings  
10      increases as you go up in size. And this is the  
11      energy savings going from single- to two-speed.  
12      In the yellow are the savings that would be  
13      accounted for reducing the size of the pool pump  
14      down to a three-quarter horse, single-speed. This  
15      is the option that IPSSA would like to maintain by  
16      allowing for three-quarter horse, single-speed  
17      replacement motors.

18           You can save a significant amount of  
19      energy doing this and it is highly cost-effective  
20      because your cost is, you are going to actually a  
21      smaller motor and less cost. But you are forgoing  
22      about 200 kilowatt hours per year typically for  
23      any of them. The two-speed is a higher energy  
24      savings and still cost-effective. Your benefit-  
25      to-cost ratio for the one horsepower is about 1.4,

1 and for the one-and-a-half horse and two horse  
2 your benefit-to-cost ratio is about two.

3 So when we put all these together,  
4 three-quarter horse, two-speed motors save a  
5 significant amount of energy, though currently at  
6 marginal economics. A couple of comments on that.  
7 Three-quarter horse, two-speed pumps are currently  
8 expensive. There are not a lot of them. We  
9 expect the cost for three-quarter horse, two speed  
10 pumps to come down.

11 Manufacturers are also about to release  
12 efficient low-speed, two-speed pool pumps.  
13 Currently the low-speed operation of two-speed  
14 pool pumps is low efficiency, as can be seen from  
15 the low power factor. Basically reduce the number  
16 of poles. AO Smith, one of the major  
17 manufacturers, will be releasing a high-  
18 efficiency, two-speed pump, which will improve the  
19 economics significantly.

20 Also, if we were to allow for three-  
21 quarter horse, single-speed replacement motors, a  
22 significant number of replacement motors would go  
23 to the single-speed, three-quarter rather than to  
24 a two-speed. And the lost energy savings here, as  
25 represented in the top row, is what would be for

1 the current 45 day language where 100 percent of  
2 pools are replaced with two-speed.

3 If we assume that half of those go to  
4 single-speed because of the single-speed being  
5 available we would be losing -- over the ten year  
6 lifetime of the motors we would be forgoing 93  
7 gigawatt hours of energy savings and 44 megawatts  
8 of demand.

9 So finally, our recommendations. We  
10 recommend retaining the current 45 day language  
11 which stipulates one total horsepower for  
12 replacement motors. This provides consistency  
13 with pump/motor combinations which is currently in  
14 law. And it prevents a loss of savings due to  
15 going to single-speed motors rather than two-speed  
16 motors.

17 We do propose a new -- We will be  
18 submitting comments on a few small changes. One  
19 is we would recommend using the total horsepower  
20 definition in the language. Currently there are  
21 two definitions, one is total horsepower and the  
22 other is pool pump motor capacity, and we think  
23 that is confusing. Total horsepower is used  
24 within the industry and we would like to stay with  
25 the single, consistent definition.

1           There is some ambiguity as to when the  
2       effective date of the replacement motor regulation  
3       would take effect. I think it would be good to  
4       have an explicit date in the language.

5           And also there are some suggested  
6       changes in terms of multi-speed pump listing.  
7       Currently the 45 day language has a change to  
8       require two-speed pumps to be listed just at their  
9       default speed, which is at a low speed. We think  
10      it is important to test multi-speed, both  
11      variable-speed and two-speed, at two speeds, both  
12      their default speed and their high speed.

13           And that concludes my presentation on  
14      pools. Do you want to take comments on pools and  
15      we'll go to spas after?

16           PRESIDING MEMBER ROSENFELD: Yes. Bill  
17      Pennington is signaling.

18           MR. PENNINGTON: I have a question about  
19      Slide 10. Could you go back to Slide 10. My  
20      question is, how feasible is it to go from an  
21      existing system that is using a two horsepower  
22      motor to a three-quarter horsepower?

23           MR. RAINER: It actually is quite  
24      feasible. What they do is they replace the motor  
25      with a three-quarter and they replace the impeller

1 with a three-quarter horse impeller. So you use  
2 the same pump housing. It obviously depends on  
3 the type of pool pump. If it is an older, like  
4 let's say an older bronze pool pump, I would  
5 expect that the service person would not do that  
6 and would replace the entire device. But on many  
7 pool pumps that is quite feasible. And there are  
8 people from the industry in the audience who I  
9 think might be able to speak more to that.

10 MR. PENNINGTON: So making the --

11 MR. FERNSTROM: Bill, Bill, if I could  
12 add something. This is Gary from PG&E. Leo is  
13 correct in that it technically quite feasible.  
14 However, oftentimes we see pools with one motor  
15 serving all of the pool-related functions. So the  
16 motor might serve the solar collector, the  
17 associated spa and so on.

18 In that case the builder might have  
19 simply used a two horsepower motor. And  
20 substituting a three-quarter, while it would be  
21 adequate for filtration, might not allow the spa  
22 to perform satisfactorily. So I think the folks  
23 from the trade that are here today would say that  
24 the answer to the type of question you have raised  
25 depends strongly upon the pool and it varies a lot

1 from pool to pool.

2 PRESIDING MEMBER ROSENFELD: So Gary,  
3 how would you get around that? Would you talk  
4 about exemptions for multipurpose?

5 MR. FERNSTROM: Well my solution would  
6 be the two multi- or variable-speed. It gives you  
7 the benefit of having the two horsepower there if  
8 you want it and need it for the spa and it gives  
9 you the advantage of a much lower horsepower for  
10 ordinary filtration.

11 PRESIDING MEMBER ROSENFELD: Okay.

12 MR. PENNINGTON: So I have a question  
13 about what Leo said related to changing the  
14 impeller or making changes in the pump that would  
15 accommodate a drop down from a larger to a smaller  
16 motor. How do the costs of those kinds of  
17 modification changes to the pump compare to the  
18 cost of going to a two-speed motor? There seems  
19 to be an implication here that it is considerably  
20 lower cost to convert to three-quarters than it is  
21 to install a two-speed motor. And so I am trying  
22 to understand, is that real or, you know?

23 MR. FERNSTROM: I would have to defer to  
24 our experts from the trade because I don't have  
25 direct knowledge of that. But here are the

1 component issues associated with it. To downsize  
2 the impeller you need a smaller impeller and the  
3 time associated with installing it. You need a  
4 less expensive downsized motor. To go to the two-  
5 speed you don't need to change the impeller but  
6 you are buying, at least in the short run, a more  
7 expensive two-speed motor. But I see Celia is  
8 here and she probably knows the answer to this  
9 better than any of us.

10 MS. HUGUELEY: This is Celia Hugueley.  
11 I am with Oasis Pool Service and IPSSA.

12 As far as downsizing goes, we have to  
13 take the impeller off every time we change a motor  
14 so it is not too much extra. It is no different  
15 in the labor, you still have to change the seal  
16 and the impeller. And so the incremental cost I  
17 think Leo, you established or staff came up with  
18 \$420. At other times I have seen \$477 as the  
19 incremental cost of upgrading to a two-speed. So  
20 I would, you know, just back off of that. So you  
21 have approximately \$500, you know. The impeller  
22 probably costs \$35 so somewhere a little shy of  
23 \$500 less to downsize.

24 MR. PENNINGTON: Could you --

25 MS. HUGUELEY: And it has the same,

1       because it has the same timer and you don't have  
2       to change any of that.

3               MR. PENNINGTON:   Could you give an  
4       educated guess as to what frequency of occasions  
5       would you consider downsizing from a two-speed to  
6       a three-quarters?   You have the situation where  
7       the motor was sized, as Gary was suggesting, to do  
8       all the functions at the pool.   That would mean  
9       that you wouldn't do that 100 percent of the time.

10              MS. HUGUELEY:   Right.

11              MR. PENNINGTON:   Could you estimate what  
12       percentage of the time you might do that?

13              MS. HUGUELEY:   I guess I am not clear.  
14       How we would typically size a pump, and that would  
15       include two speeds as well, is we have to size to  
16       the maximum load.   In other words, if they turn  
17       everything on, the solar, the sweep, and  
18       everything at one time, that pump has to be able  
19       to accommodate.

20              But actually more defining when we size  
21       pumps is the size of the plumbing that exists.  
22       Many times pool builders oversize their filter  
23       pumps.   That is why we are so savvy about  
24       downsizing.   Because we have been doing it for a  
25       long time.   Because many times they will put too

1 big a pump on too small a plumbing and it  
2 cavitates and it is noisy and inefficient. So,  
3 you know, as far as statistically giving you an  
4 exact number, I don't know but it is a frequent  
5 occurrence.

6 Now if I had a two-speed already in  
7 existence on a pad, you know, we would probably  
8 work with the two-speed, you know, and keep the  
9 same system. Because they would already have  
10 their timer, they would already have all that.  
11 This is more of -- What we were talking about is  
12 we have an existing single-speed system that we  
13 would, rather than going up to two-speed we would  
14 just downsize.

15 MR. PENNINGTON: Right.

16 MS. HUGUELEY: And a three-quarter horse  
17 pump on two-inch plumbing will put out, you know,  
18 in many cases 75 to 80 gallons a minute in a well-  
19 designed system. Which accommodates most, quite a  
20 bit of the swimming pool world.

21 MR. PENNINGTON: All right, thank you.

22 MS. HUGUELEY: I had a couple of  
23 questions for Leo. On your, I think it's the next  
24 graph. On your hours of operation, that is  
25 assuming also 4.2 on the low-speed running, is

1       that right?  You didn't --

2               MR. RAINER:  The analysis is done by  
3       assuming that the pool is operating for 4.2 hours  
4       on single-speed.

5               MS. HUGUELEY:  Right.

6               MR. RAINER:  So we estimate how many  
7       gallons total per day are turned by a single-speed  
8       at 4.2 hours.

9               MS. HUGUELEY:  Right.

10              MR. RAINER:  And then the two-speed  
11       motor operates at high-speed for two hours.  That  
12       turns a certain number of gallons.  Whatever  
13       number of gallons is left then has to be operated  
14       for the number of hours needed at low speed.

15              MS. HUGUELEY:  Okay.  It just wasn't on  
16       the graph and I just wanted to make sure they  
17       understood that it is also running on low speed.

18              MR. RAINER:  Right, yes.  So it's  
19       running at two hours on high --

20              MS. HUGUELEY:  To come up to an equal  
21       number of gallons.

22              MR. RAINER:  -- and then some amount,  
23       typically about six hours on low speed.

24              MS. HUGUELEY:  And on your suggestion  
25       for a default on a variable speed measuring the

1       default speed.  How is that going to be defined,  
2       the default speed?

3               MR. RAINER:  The suggestion, and I  
4       understand this is how they have actually listed  
5       them so far, is to list the multi-speed or  
6       variable speed pumps at their high speed and then  
7       at the speed that they have the highest energy  
8       factor.  Which would be the rate that you would  
9       want to operate it at.  It is not an easy point to  
10      assume because you can't just specify a certain  
11      flow rate.

12             MS. HUGUELEY:  Because it would be so  
13      contingent on what it is installed on.

14             MR. RAINER:  Well remember, this is at a  
15      -- each of these is at a specific curve.

16             MS. HUGUELEY:  Okay.

17             MR. RAINER:  So the Curve A, Curve B and  
18      Curve C would possibly be at different rates.

19             MS. HUGUELEY:  And then will that be  
20      defined in what they post with the CEC so that we  
21      can look at that and say, oh, 750 RPM or whatever?  
22      Will we see that?

23             MR. RAINER:  The RPM is now, that is an  
24      additional -- in the current language the RPM has  
25      been added to the table.

1 MS. HUGUELEY: Okay.

2 MR. RAINER: So you have new RPM.

3 MS. HUGUELEY: It is just not currently  
4 on there?

5 MR. FERNSTROM: And if I could add, the  
6 flow is also indicated at that operation point.  
7 So if you want to know the performance you have  
8 got that listed.

9 MS. HUGUELEY: Right. Okay, thank you.

10 MR. RAINER: If there are no further  
11 questions I will move on to spas for one slide.

12 ADVISOR RHYNE: Actually Leo I had one  
13 additional question. You mentioned the benefit-  
14 cost ratio on Slide 9 and then you talked about it  
15 again on Slide 10. You happened to mention it.  
16 What is the comparison of benefit-cost ratios  
17 between the two alternatives there?

18 MR. RAINER: For downsizing your benefit  
19 to cost ratio is negative because you are actually  
20 -- downsizing is a lower cost. If you are  
21 comparing, let's say on a one-and-a-half horse.  
22 You have an existing one-and-a-half horse motor  
23 and your options are, A, to go to -- your base  
24 case is staying at one-and-a-half horse, single  
25 speed.

1           Your two options would be, one,  
2       downsizing to a three-quarter single-speed or  
3       going to a one-and-a-half horse two-speed.  
4       Downsizing to the three-quarter actually is a  
5       lower cost because you are using a smaller motor.  
6       So the benefit to cost doesn't even, you can't  
7       calculate it. It is actually a lower cost and you  
8       are saving energy. The two-speed costs you on the  
9       order of \$400 but saves you, for one horse saves  
10      you 600 kilowatt hours a year and has a benefit to  
11      cost ratio of about 1.4 for a lot less. And it  
12      has a benefit to cost ratio of about two for the  
13      one-and-a-half and two horse.

14               PRESIDING MEMBER ROSENFELD: So that's  
15      the better investment.

16               MR. RAINER: That's the better  
17      investment from a first-cost perspective,  
18      obviously, if you downsize. But over the life  
19      cycle of the motor the two-speed is a much better  
20      investment.

21               PRESIDING MEMBER ROSENFELD: What life  
22      cycle did you use?

23               MR. RAINER: Ten years is assumed.

24               PRESIDING MEMBER ROSENFELD: Thanks.

25               MR. RAINER: Anything further?

1           As Betty had mentioned, there are some  
2       revisions, clarifications to the test method.  
3       PG&E has been working with the APSP continually on  
4       revising the test method. They have been testing  
5       a number of spas at Cal Poly San Luis Obispo and  
6       been reviewing the test method.

7           We are very close to agreement on a  
8       number of suggested changes. Specifically some  
9       language defining spa volume, exactly. Operation  
10      of ancillary equipment, which would include spa  
11      sanitary and other devices such as audio and  
12      video, which can come with spas.

13          And also normalization of the standby  
14      power to a delta-T of 37 degrees for uniform  
15      results. Because there are differences in the  
16      test method it is difficult to maintain the  
17      environment and the spa temperature and so you get  
18      different results based on the delta-T. So the  
19      proposal is to normalize to a fixed delta-T based  
20      on the results of the test. The power and the  
21      actual delta-T during the test.

22          We will be reviewing these comments with  
23      APSP and submitting them before the deadline and  
24      we expect that APSP will submit a memo supporting  
25      that.

1                   PRESIDING MEMBER ROSENFELD: Thank you.

2                   MR. RAINER: And that concludes my  
3 remarks. Any questions?

4                   PRESIDING MEMBER ROSENFELD: Do we have  
5 questions or comments on spas? I guess not.

6                   MS. MERRITT: I believe we have blue  
7 cards from Bob Nichols representing the  
8 Independent Pool and Spa Service Association and  
9 at least two other industry representatives  
10 wanting to make comments.

11                  PRESIDING MEMBER ROSENFELD: I have Bob  
12 Nichols, Celia Hugueley again and Mike Gardner.

13                  MR. NICHOLS: Good morning. My name is  
14 Bob Nichols. I am the IPSSA director of Region  
15 Three, which is the Northern Los Angeles Area. I  
16 am also the Chairman of the IPSSA Outreach  
17 Committee and the IPSSA Government Relations  
18 Committee. I am here to speak on behalf of IPSSA  
19 and its support of the IPSSA public comment  
20 submitted on September 2. And I bring with me the  
21 full support of the IPSSA Board of Regional  
22 Directors.

23                  The Independent Pool and Spa Service  
24 Association was organized 20 years ago this year  
25 by service technicians in California and has grown

1 to 3800 members with 88 chapters covering  
2 California, Arizona, Nevada, Texas and Florida.  
3 Organized in ten regions with each region having a  
4 Director on the IPSSA Board of Regional Directors,  
5 the governing body of IPSSA. IPSSA leadership and  
6 committee participation is completely voluntary.  
7 No one gets paid for anything.

8 Members that have contributed to this  
9 project are members that are concerned about  
10 energy savings and consumer satisfaction. They  
11 understand that if we are to individually succeed  
12 in the competitive market we must have the tools  
13 to provide the consumer with choices to make a  
14 well-informed decision based on their individual  
15 needs and financial abilities in regards to energy  
16 savings, and provide a selection of high-quality  
17 products that provide predictable results and  
18 reasonable service life.

19 Many of our association members have led  
20 the way in the installation and use of energy-  
21 saving products that have been introduced in the  
22 last few years. Energy-saving products in our  
23 industry are only now in their first issue, with  
24 many manufacturers falling behind in design and  
25 production of new, affordable, energy-saving

1        technology. This lends itself to an inadequate  
2        selection of consumer products and a narrow  
3        pricing corridor available to the consumer.

4                We have therefore taken the position  
5        that until a manufacturing technology achieves the  
6        goals intended by the Title 20 requirements we  
7        need to be able to provide the consumer with the  
8        option of using three-quarter horse nameplate,  
9        full-rated, high-performance pumps and replacement  
10       motors as an option in their effort to save energy  
11       and reduce their individual energy costs.

12               Within our comments, the ones submitted  
13       on September 2, we compare a three-quarter  
14       horsepower, dual-speed pump with a single-speed  
15       pump under normal nameplate parameters and prove  
16       that the single speed pump conserves more energy  
17       than the dual-speed pump. And there has been no  
18       argument presented to date that proves otherwise.  
19       Maybe a little bit a couple of minutes ago.

20               (Laughter)

21               MR. NICHOLS: Basically we are still in  
22       the ballpark. As Leo said, we met with PG&E and  
23       Leo and have agreed that there's a -- we have  
24       agreed that there is a limit to what can be done  
25       with the current technology. However, we have not

1       been able to bilaterally determine the exact level  
2       of where that limit should be established. Based  
3       on the calculations in our public comment, page  
4       six, we have proven the limit to be the three-  
5       quarter horse, full-rated, single-speed pump and  
6       replacement motor.

7               Should the legal descriptions and  
8       definitions presented in the proposed language  
9       changes be adopted, this particular pump and  
10      replacement motor will no longer be available to  
11      our industry as an option to the consumer for  
12      saving energy at a cost that is reasonable and  
13      benefit the cost-efficient.

14             We urge a review of the mitigating  
15      circumstances now available that were not  
16      previously considered.

17             Leo had touched base on what an upgraded  
18      pump was. I brought with me a little bit of a  
19      demonstration. I have two impellers. If you'd  
20      like I can bring them up there.

21             PRESIDING MEMBER ROSENFELD: We  
22      certainly can't see much from here.

23             MR. NICHOLS: I hear that. It's okay?  
24      May I approach? Is that the words?

25             (Laughter)

1           MR. NICHOLS: Those impellers are the  
2 business end of the pump. You have before you two  
3 impellers. One is a half-horsepower full-rated  
4 that also doubles as a three-quarter horsepower  
5 up-rated. And the other is a three-quarter  
6 horsepower full-rated that doubles as a one  
7 horsepower up-rated. Is anybody else confused?

8           (Laughter)

9           PRESIDING MEMBER ROSENFELD: And they  
10 look the same to me.

11          MR. NICHOLS: They have been marked by  
12 the manufacturer with a specific part number. I  
13 have the packaging they came in and also a parts  
14 list if you want to check me out on that one.

15          The difference between those two  
16 impellers is about nine cubic centimeters in total  
17 impeller vane area. Approximately the volume of  
18 an average grape. This volume measurement is the  
19 only difference between a compliant single-speed,  
20 half-horsepower pump and a three-quarter  
21 horsepower non-compliant single speed pump should  
22 the proposed language definitions be adopted.

23          The OEM nameplate energy usage capacity  
24 of the motors used to drive these impellers is  
25 only reduced in service factor by the impeller

1 horsepower multiplier. The motor's nameplate  
2 energy usage is exactly the same. You will find  
3 this to be predominant throughout the pump  
4 manufacturers' labeling on full-rated and up-rated  
5 pumps.

6 In the initial rulemaking process one  
7 horsepower was the threshold of regulation. Our  
8 entire industry has worked with nameplate  
9 nomenclature for product description long before  
10 the inception of Title 20, and interpreted the  
11 existing language to refer to the same  
12 description.

13 We have offered evidence to this fact  
14 within our public comment. To not return to the  
15 existing language and change the definitions to  
16 include three-quarter horsepower nameplate pump  
17 and replacement motor in an attempt to increase  
18 the scope of the existing language will increase  
19 energy usage rather than conserve energy and  
20 provide absolutely no benefit to cost advantage to  
21 the consumer. This proven fact must be considered  
22 in the Commission's decision-making process.

23 I have been asked by a couple of people  
24 why we continue to argue the point for the full-  
25 rated pump, three-quarter horsepower that is

1 normally rated 1.25 total horsepower. There are  
2 labeled three-quarter horse pumps and you have the  
3 impellers right there in the market that are rated  
4 less than one total horsepower.

5 These pumps are classified as up-rated  
6 pumps. And in the category of three-quarter horse  
7 they are one-half horsepower motors with the same  
8 impeller. The smaller impeller that you have  
9 there is a one-half horsepower full-rated or a  
10 three-quarter up-rated. It's the same impeller,  
11 same motor, no savings, nothing but extra usage.

12 Let's see, I lost my -- I got emotional  
13 there for a minute, excuse me.

14 The confusion exists only for the  
15 consumer. Professionals know that these pumps are  
16 actually only a one-half horsepower pump and motor  
17 combination and they do not compare in performance  
18 with full-rated pumps. The consumer expects from  
19 our membership a high quality product that has a  
20 predictable service life and will perform on an  
21 energy efficient basis. The full-rated three-  
22 quarter horsepower energy efficient pump and  
23 replacement motor is the quality product we must  
24 continue to provide to our customers.

25 In regards to public awareness. In our

1 research of the California Energy Providers Rebate  
2 and Incentive Programs we find there is no  
3 reference to the fact that Title 20 is law and  
4 regulates what products are to be sold in  
5 California. They all imply that it is a good idea  
6 to save energy and therefore the consumer has a  
7 choice to purchase energy-saving products or not  
8 to purchase them.

9 This lack of support in educating the  
10 consumer makes it difficult for the industry to  
11 provide energy-saving products and remain  
12 compliant and competitive. The lack of knowledge  
13 of the requirements of Title 20 within the  
14 consumer market lends itself to non-compliant  
15 products being sold and installed by the ever-  
16 increasing black market of uncertified and  
17 unlicensed contractors. We desperately need the  
18 help of the energy providers in educating the  
19 consumer that the requirements of Title 20 are not  
20 just a good idea but they are a requirement of law  
21 that must be complied with.

22 In regards to safety. Within our public  
23 comment there is a reference by -- I am going to  
24 low this name, okay. Shajee Siddiqui of the Jandy  
25 Zodiac Corporation. Indicating concern on

1 replacement motors nullifying the UL listing of  
2 pump motor combinations when a replacement motor  
3 is installed other than how the original pump was  
4 designed and certified. This issue has not been  
5 truly investigated nor have there been guidelines  
6 provided by manufacturers of replacement motors.

7 The service industry cannot provide  
8 these guidelines. They must be clearly presented  
9 by the pump and motor manufacturers. Due to the  
10 lack of guidelines, our position when we met with  
11 the Commission staff was that all pumps and motors  
12 produced prior to January 1, 2008 should be exempt  
13 from Title 20 regulation.

14 By now proposing to remove the three-  
15 quarter horsepower nameplate single-speed pump and  
16 replacement motor from our options for downsizing  
17 to energy saving levels on existing pool systems.  
18 We feel the proposed language, if adopted, will,  
19 as we have shown, increase energy usage and  
20 consumer cost on an ever-increasing basis.

21 In closing my comment: We urge the  
22 Commission to consider the reality of our  
23 calculations and find a way to return the legality  
24 of definitions to the benefit of the energy  
25 consumer by allowing the nameplate three-quarter

1       horsepower pump and replacement motor to be  
2       compliant with the regulations of Title 20.

3               Many of our members, including myself,  
4       are confident that the producers of pumps and  
5       replacement motors will provide the service  
6       industry with the energy saving technology that  
7       will eventually exceed all of our expectations.  
8       But that time has yet to arrive in a fashion that  
9       is financially available to the majority of the  
10      consumer market.

11             Technology and manufacturing must do  
12      more to provide the service industry with high  
13      quality, safe and more affordable energy-saving  
14      equipment.  Items such as lower horsepower  
15      variable-speed or variable-flow pumps with lock-  
16      out PIN codes and simplified control systems need  
17      to be on the market as soon as possible.

18             Until this is accomplished the nameplate  
19      three-quarter horsepower 1.25 total horsepower  
20      full-rated pump and replacement motor is a proven  
21      method of satisfying consumer needs and reducing  
22      consumer energy costs.

23             Additionally, we would urge the CEC to  
24      arrange a conference of manufacturers, wholesale  
25      suppliers, energy providers and the service

1 industry soon after the adoption of the proposed  
2 2008 language and provide the entire industry an  
3 opportunity to clear any confusion and become one  
4 body, assisting the state of California and the  
5 Commission in our joint effort to conserve energy  
6 and reduce consumer costs.

7 I want to thank you for your time today.  
8 And we trust that the Commission will review and  
9 consider our comments and bring about a decision  
10 that is beneficial to the state of California and  
11 the consumers that support our industry. Thank  
12 you.

13 PRESIDING MEMBER ROSENFELD: I am, as  
14 usually, confused.

15 MR. NICHOLS: May I have the impellers  
16 back? Or I have to pay for them when I get home.

17 (Laughter)

18 PRESIDING MEMBER ROSENFELD: Let me ask  
19 the staff. When is the effective date for the --

20 MR. NICHOLS: My understanding is  
21 January 1, 2010. Is that still correct?

22 PRESIDING MEMBER ROSENFELD: What I am  
23 confused about is whether your calculations are  
24 long-term calculations or whether you are saying  
25 there is a shortage of products and you need a

1 delay in the effective date.

2 MR. NICHOLS: There is a shortage of  
3 product. There is one major manufacturer that  
4 has --

5 MR. PENNINGTON: Sir, you need to speak  
6 into the mic so it gets recorded for the  
7 transcript.

8 MR. NICHOLS: I had to move up so I  
9 could hear him.

10 There is a shortage of product. One  
11 major manufacturer, namely Pentair, has dual-  
12 speed, three-quarter horse pumps that are  
13 available. They are compared in our, in our  
14 comment, and the single-speed still outperforms  
15 that both in water movement and energy usage.

16 Aqua-Flo has one dual-speed three-  
17 quarter. And a company by the name of Spec that  
18 none of us have ever heard of. So the product on  
19 two-speed, three-quarters is low, it is almost  
20 non-existent.

21 PRESIDING MEMBER ROSENFELD: Again, I am  
22 unclear as to whether you are appealing for simply  
23 a delay until more product is available or you are  
24 opposed to the whole regulation.

25 MR. NICHOLS: Basically my comment is

1       that the three-quarter horse, full-rated pump and  
2       replacement motor is an extremely efficient,  
3       energy saver that could be used for downsizing  
4       from one horsepower, one-and-a-half horsepower.  
5       And in some older bronze pumps the three-quarter  
6       will replace that two horsepower bronze pump  
7       easily, if I heard your question properly.

8               PRESIDING MEMBER ROSENFELD:   I guess I  
9       am going to say to you to stay for Leo Rainer to  
10      -- Leo, as I remember you showed a pretty  
11      convincing slide with blue lines and -- blue bars,  
12      I'm sorry.   The yellow bars and the blue bars.

13             MR. RAINER:   Our analysis shows that  
14      three-quarter single-speed do not save as much  
15      energy as two-speed.   You do save energy  
16      downsizing to three-quarter.

17             PRESIDING MEMBER ROSENFELD:   Yes.

18             MR. RAINER:   But you save more energy  
19      going to two-speed.

20             PRESIDING MEMBER ROSENFELD:   So we just  
21      have a direct contradiction between you.

22             MR. RAINER:   Yes.

23             PRESIDING MEMBER ROSENFELD:   You two  
24      folks.   How are we going to -- We are going to  
25      take Bob Nichols' comments and have lots of

1 huddled discussions off-line?

2 MR. RAINER: In addition we would say  
3 that the three-quarter two-speed does save energy.  
4 We would say it is marginally cost-effective but  
5 it definitely saves a significant amount of  
6 energy. And that the cost effectiveness we expect  
7 will rise due to -- Three-quarter, as we have  
8 seen, is a small amount of product, meaning the  
9 cost is high right now but we expect the cost to  
10 drop.

11 MR. GARDNER: Costs to drop?

12 MS. HUGUELEY: Costs don't drop.

13 MR. RAINER: The demand will rise.

14 MR. GARDNER: It doesn't matter. Costs  
15 don't drop, Leo.

16 PRESIDING MEMBER ROSENFELD: But your  
17 figures are based on present costs.

18 MR. RAINER: Yes, all the figures are  
19 based on present costs.

20 PRESIDING MEMBER ROSENFELD: I guess we  
21 should go on to Ann (sic) Hugueley. Are you next?  
22 You were next, Ann?

23 MS. HUGUELEY: Again, this is Celia  
24 Hugueley from Oasis Pool Service and IPSSA.

25 PRESIDING MEMBER ROSENFELD: I stand

1 corrected. I'll try to say Hugueley from now on.

2 MS. HUGUELEY: Celia works. People have  
3 enough trouble with that. And forgive me for  
4 reading my comments but I don't want to miss any  
5 of my really compelling points.

6 I am a member of the IPSSA committee  
7 studying the two-speed pump. And I want to thank  
8 you for allowing me to speak to you again on the  
9 issue of swimming pool replacement motors and  
10 pumps.

11 After the hearing, your hearing in May,  
12 it became clear to us in IPSSA that there was a  
13 need to verify some of the assumptions put forth  
14 by PG&E regarding the energy savings and  
15 applicability of two-speed motor replacements

16 As you might guess, the summer months  
17 are quite busy or folks in the pool business. But  
18 we got busy reading the studies that were used to  
19 support PG&E's statewide energy savings numbers as  
20 well as the CEC pump data, Davis Energy system  
21 curves, Leo and Excel and the mountains of other  
22 resource materials I won't bore you with.

23 My husband Mike and I were charged with  
24 the task of actually collecting the IPSSA  
25 statewide as well as individual swimming pool

1 data, a process not yet complete.

2 We have thus far gathered very complete  
3 data on 50 of our 150 pools on service. It is a  
4 fairly technical process that require knowledge of  
5 meter types, labeling variations, pump and other  
6 equipment characteristics as well as the various  
7 definitions of horsepower and watt.

8 And then Gary threw in power factor,  
9 which is a big topic today, and we had to redo all  
10 of our measurements again with a watt meter to get  
11 the power factor included. And that is the  
12 discrepancy between what we submitted in  
13 September, the data that Leo was referring to. We  
14 have now gone back and remeasured all of those  
15 pools with a watt meter. Suffice to say we have  
16 learned lots and lots about watts.

17 Throughout the summer we met with your  
18 staff, Gary Fernstrom and Leo Rainer, as well as  
19 consulted with many industry electrical experts.  
20 In our meetings and many other e-mails over the  
21 summer with PG&E and DEG we worked to make them  
22 understand that their initial numbers on energy  
23 savings based on 100 percent low-speed pumping on  
24 100 percent of the pools would not really work.  
25 We have continuously shared our data as it was

1 collected and even when it did not necessarily  
2 promote our argument, but with the purpose of  
3 collecting better, more accurate information.  
4 with their help we did so.

5 From their presentation it seems that we  
6 have had some impact. They seem to now  
7 acknowledge that most existing pools cannot run on  
8 low-speed only and are using the compromise figure  
9 of two hours of high-speed running. We are now  
10 down to a he said, she said, best guess on whether  
11 chlorinators can work and how well. How deep the  
12 low speed will be able to penetrate a sand bed,  
13 and how many months folks run their solar.

14 We checked and could find no published  
15 reports from manufacturers with this data. We  
16 based our assumptions on how well these devices  
17 perform when filters are dirty. The low speed has  
18 an even lower flow than the worst of dirty filter  
19 situations.

20 Manufacturers through APSP and our  
21 direct -- Manufacturers through -- forgive me, I'm  
22 nervous. Manufacturers through APSP are happy to  
23 tell PG&E anything that will help them enact this  
24 regulation. Our pool building bubble has burst in  
25 a huge way. Replacement equipment is their whole

1 market right now and this regulation guarantees  
2 high-cost replacement equipment will be installed.

3 IPSSA is the only group that represents  
4 our customers. And while replacing equipment is  
5 also in our best financial interest, we make more  
6 money doing it, we have to return to those pools  
7 week after week and defend what we have  
8 recommended.

9 What still remains unanswered is whether  
10 low-velocity pumping will mix the water adequately  
11 enough to distribute the chlorine and other  
12 chemicals and filter the whole pool. The  
13 established pool filtering turnover rates are  
14 based on high velocity pumping. No one has yet  
15 studies whether we get the same proportional  
16 effects at low speed or how much extra time might  
17 be needed to equal the high velocity pumping of a  
18 single or high-speed pump at low speed.

19 PG&E uses a direct gallon to gallon  
20 equivalency that is counter-intuitive and  
21 completely unproven and undocumented. Obviously  
22 what we are trying to do, what they are trying to  
23 do is make a clear case for energy savings where  
24 such clarity does not yet exist. Pools are as  
25 varied as the yards they inhabit and can never be

1 neatly pushed into a predictable box, which Gary  
2 referred to earlier as well.

3 With all of our study and field research  
4 the most glaring reality is that our data is  
5 woefully inadequate. Also woefully inadequate is  
6 the data provided by PG&E. The studies used to  
7 support PG&E's statewide numbers are extremely  
8 weak. They are a patchwork quilt with a few  
9 threads to tie them together. They are out of  
10 date and the very minimal field data was  
11 imprecise. Most noteworthy is there is no  
12 information on two-speed pumps.

13 Our data too is flawed because we as a  
14 company are rigorous in our energy conservation  
15 measures and demand full control of the time  
16 clocks. We have our preferences as to pumps and  
17 filters and it shows in the data. Worst of all,  
18 we have only four two-speed pumps on our route,  
19 all installed this year. Way too few examples for  
20 too short a period of time to draw any meaningful  
21 conclusions as to run times or operational  
22 idiosyncracies.

23 We contacted Bill Storm who testified at  
24 the May hearing, another IPSSA member, who has  
25 installed two-speed pumps. But he kept no data on

1 his pools and is no longer servicing them to  
2 follow up for us to get that data.

3 But I have a solution. PG&E has at its  
4 disposal a significant database of two-speed and  
5 downsized pools from their rebate program.  
6 Please, before you approve any further expansion  
7 of this regulation by including replacement motors  
8 require PG&E to perform a comprehensive field  
9 study of their two-speed participants and then  
10 compare them with an equal number of rebate  
11 participants that were paid to downsize to three-  
12 quarter, now called the 1.25 total.

13 Let the people who have already  
14 installed their two-speeds, some in for several  
15 years now, show us definitively how long they  
16 actually run their high speed and whether their  
17 sand filters still work. Let's stop all the  
18 guessing and back and forth. Let's stop the hype  
19 and overstatement.

20 If raw energy engineering and laws of  
21 physics were always perfectly predictable NASA  
22 would never have needed to launch those chimps  
23 into space and John Glenn would have been put into  
24 orbit years before Sputnik. Please, do not make  
25 my customers pay for beta testing the application

1 of pump affinity laws on their existing pool  
2 systems. Let's scientifically measure and analyze  
3 those already installed. Let's create independent  
4 verification of PG&E's assumptions.

5 If money for such research is lacking I  
6 think I can speak for IPSSA in saying that we  
7 would be happy to participate voluntarily in a  
8 joint effort to create real, comprehensive,  
9 accurate and useful data. Let's see if they are  
10 saving energy and give us something other than  
11 undocumented assumptions to support the  
12 installation of this equipment.

13 Thank you. Does anybody have any  
14 questions?

15 PRESIDING MEMBER ROSENFELD: Gary  
16 Fernstrom, it sounds as if you may want to make  
17 some comments.

18 MR. FERNSTROM: Thank you, Commissioner,  
19 I have no comment.

20 ASSOCIATE MEMBER PFANNENSTIEL: But  
21 Gary, let's go to the question, I think, that is  
22 on the table. She pointed out that the data PG&E  
23 could have, should have, on the two-speed pumps  
24 available through the --

25 PRESIDING MEMBER ROSENFELD: Rebate.

1           ASSOCIATE MEMBER PFANNENSTIEL:  -- the  
2    rebate program could be useful in this regard.  Do  
3    you have the data?  Has it been used?  What does  
4    it show?

5           MR. FERNSTROM:  We don't have the data.  
6    It hasn't been used and consequently it is not  
7    showing anything.  Let me elaborate a little bit  
8    on that.  We don't have end-use specific  
9    measurement data really for any of our customers.  
10   The best data we have is the monthly energy use  
11   maybe improved a little bit for those customers  
12   that now have smart meters where we have load  
13   profile information.  But we don't have  
14   information at the pool pump level.

15           We could go out to those customers where  
16   we know two-speed conversion has taken place and  
17   we could determine the operating hours.  We could  
18   measure the energy use.  But that would not  
19   necessarily give us an indication of the energy  
20   that was previously used by the pump and motor  
21   that has been removed and replaced with the new  
22   two-speed equipment.

23           PRESIDING MEMBER ROSENFELD:  You can  
24   only compare with a theoretical baseload.

25           MR. FERNSTROM:  That's right.  And we

1 have, in fact, done our energy saving estimates  
2 quite carefully based on the market  
3 characterization information that we do have and  
4 we filed it with the California Public Utilities  
5 Commission. And so far as I know it has been  
6 accepted and reflected in the Database of Energy  
7 Efficient Resources, I believe it is.

8 PRESIDING MEMBER ROSENFELD: DEER.

9 MR. FERNSTROM: The DEER database. So I  
10 am not aware of any other efficiency standard  
11 proceeding in which we have been asked to do  
12 anything more than we have already done in this  
13 case.

14 PRESIDING MEMBER ROSENFELD: Celia, let  
15 me ask you a question. You were asking about  
16 data. Did I misunderstand you that you said you  
17 had looked at something like 250 pools but only  
18 four of them had two-speed motors?

19 MS. HUGUELEY: Our company services 150  
20 pools.

21 PRESIDING MEMBER ROSENFELD: One hundred  
22 and fifty, okay.

23 MS. HUGUELEY: And we only have four  
24 two-speeds, you know, within our route. Because  
25 we have primarily downsized over the years and

1       only replace things as they wear out. And so this  
2       year there's been four installed, two three-  
3       quarters and two horse-and-a-half two-speeds. So  
4       that is all we have available to us as far as a  
5       database of two-speed.

6               And I am, you know, really strict with  
7       my customers. I totally control their time clocks  
8       and their programming. I mean, they kind of have  
9       to agree to that. So I keep track, very close  
10      track and keep their pools running optimally.

11             Our question is whether that's a fair  
12      comparison. You know, when we came up with the  
13      numbers of how long a high speed is running and  
14      how long low speed is running on these two-speeds  
15      outside of my control. So in other words the  
16      hundreds and hundreds of two-speeds that are not  
17      in Oasis Pool Service's route, how long. You  
18      know, it just seemed to me that PG&E has a list of  
19      these people that have put them on for years now.  
20      How long Gary has there been a rebate program?

21             MR. FERNSTROM: Probably six years now,  
22      Celia.

23             MS. HUGUELEY: Yes, so we have six years  
24      of data we could collect. It could totally  
25      disprove our concerns about sand filters or

1 chlorinators and how long they are running low-  
2 speed. Because in this process this summer,  
3 anecdotally, you know, we are talking to a lot of  
4 people who they basically run their low speed like  
5 24. The pump is running all the time.

6 And in fact some of these controllers,  
7 the older controllers that are not compliant now  
8 but were previously installed, the default is low  
9 speed and that's it. So they run high speed for a  
10 certain number of hours and then it's running on  
11 low speed the rest of the time. So I just think  
12 it would be really nice to have real accurate  
13 information as far as what people do when they  
14 have their two speeds under their control.

15 PRESIDING MEMBER ROSENFELD: So let me  
16 see if I understand your basic concern. Leo  
17 Rainer talked about two hours a day of high speed.  
18 And what you are saying, what you are guessing is  
19 that if one looks at the way real world, rebated,  
20 two-speed pools run, that it will be more than two  
21 hours.

22 MS. HUGUELEY: The two hours is what we  
23 have used on our two-speeds. It is what I  
24 consider to be a minimum. And I know Leo  
25 considers a lower number to be a minimum but that

1 is what we operate ours at. I believe that other  
2 people might not be as conscientious. I don't  
3 know. How many hours do you run yours?

4 MR. STAACK: About two. One-and-a-half  
5 to two.

6 MS. HUGUELEY: And how long do you run  
7 your low speed?

8 MR. STAACK: About four-and-a-half.

9 MS. HUGUELEY: So he is in line with  
10 somebody, of course he works at the Energy  
11 Commission, presumably he is pretty savvy. But he  
12 has got a two horse two-speed, is that right?

13 MR. STAACK: Yes. And I also use it at  
14 the low speed.

15 PRESIDING MEMBER ROSENFELD: Closer to  
16 the mic, Bill. The nearest one right in front of  
17 you.

18 MR. STAACK: At the low speed I am  
19 capable of operating my little monster machine  
20 that I call it, to vacuum during the day.

21 MS. HUGUELEY: You've got a  
22 Poolvergnuegen?

23 MR. STAACK: Yes.

24 MS. HUGUELEY: And he has the highest  
25 horsepower two-speed. Now we are talking about

1 three-quarter. I mean, the discussion pretty much  
2 -- We have given PG&E, even though we kind of  
3 wonder operationally whether in the real world any  
4 of these two-speeds are actually saving energy in  
5 how they are operated by consumers that are less  
6 educated, and pool guys that are less educated for  
7 that matter.

8 But our argument is over the three-  
9 quarter because we know, you know, that's the  
10 threshold where it puts out plenty of water and is  
11 simple and clean and clear. I mean, the  
12 controllers that control these -- And currently we  
13 are hoping for some change. But the controllers  
14 are hard sometimes to even figure out how long  
15 people's pumps are actually running without  
16 scrolling through lots of programs.

17 PRESIDING MEMBER ROSENFELD: Okay, I'm  
18 looking at the clock and it says 12:15 and we all  
19 want our lunch break. I am thinking that maybe  
20 you and Gary and Leo Rainer and anybody else who  
21 is interested could huddle for a few minutes off-  
22 line in a few minutes.

23 Gary, you had your hand up.

24 MR. FERNSTROM: I just wanted to make  
25 one real quick comment. We have already done a

1 lot of huddling. The other comment is we are  
2 comparing the experience of one very conscientious  
3 pool service firm, plus the experience of other  
4 conscientious firms that IPSSA has chosen to  
5 survey against one-and-a-half million pools in  
6 California. Our information shows that about two-  
7 thirds of pools are maintained by the owners  
8 themselves, not by pool maintenance contractors.

9 PRESIDING MEMBER ROSENFELD: What  
10 fraction again, Gary?

11 MS. HUGUELEY: Two-thirds?

12 MR. FERNSTROM: Two-thirds are  
13 maintained by pool owners themselves, not pool  
14 maintenance contractors. When it comes to data  
15 the RASS data shows that unit energy consumption,  
16 which can be translated into hours of operation.  
17 We have the ADM study, admittedly of 2001 which  
18 was quite some time ago, which surveyed the pool  
19 owners to determine hours of operation.

20 MR. GARDNER: How many?

21 MR. FERNSTROM: And claims that they had  
22 a statistically significant result.

23 I heard a question in the background,  
24 how many. I don't remember exactly but I believe  
25 it was in the order of 4.2 hours of operation

1 daily for pool filtration pumps.

2 MR. GARDNER: That was how many pools?

3 MR. FERNSTROM: How many pools? All I  
4 know is that ADM argued that their results were  
5 statistically significant and expressed a  
6 confidence interval around it.

7 In addition to that we hired Opinion  
8 Dynamics to survey for us the start and stop time  
9 of a random selection of pool owners by telephone  
10 and we have that data similarly coming up with  
11 something in the order of 4.2 hours. This subject  
12 has been studied a lot. We are not here without  
13 confidence in our recommendations.

14 PRESIDING MEMBER ROSENFELD: We do have  
15 one other blue card, Mike Gardner. Thank you,  
16 Celia.

17 MR. GARDNER: I'm Mike Gardner. I'm  
18 with IPSSA, I'm with Mike Gardner Pools and I am  
19 married to her. It's always hard going after her  
20 because she covers so much ground.

21 As regards to this last comment about  
22 their surveying single-speed pump owners and not  
23 two-speed pump owners. And what we are finding  
24 is, even within the pool professional community  
25 there is some fear that by going to a two-speed,

1 and only running maybe two hours or three hours of  
2 high-speed it is not going to be enough to run  
3 only four or five hours. So they tend to want to  
4 err on the other side.

5 Because honestly, a green pool is hard  
6 to recover. When you don't run a pool enough,  
7 when it doesn't get enough chlorine because the  
8 chlorinator optimally or minimally goes with 20  
9 gallons. We have a hard time sometimes at 60  
10 gallons a minute getting that chlorinator to feed  
11 enough chlorine to keep the pool clear and clean.  
12 So there's a fear. And they buy into that fear  
13 and so they start running them more hours.

14 Which is why we are asking for the  
15 three-quarter horsepower. While it may not be the  
16 perfect answer. Clearly Gary will admit that he  
17 thinks that the variable-speed is the perfect  
18 answer but they didn't want to legislate that. So  
19 they are taking a little bit lesser view. I'm  
20 saying a little bit lesser view than that, only  
21 slightly. But a three-quarter horsepower single-  
22 speed pump or motor, replacement motor.

23 Because it will be effective for a large  
24 number of pools but not -- I don't think even 50  
25 percent. If you've got a spa with six jets it

1       probably won't work. If you've got solar it's too  
2       far away or you've got multiple skimmers that are  
3       too far away. It may not be the right call. But  
4       that's what we are asking for.

5               I have been doing this 29 years. And I  
6       can look at a pool and know that it is going to  
7       need only so much pump. And we have always  
8       focused on minimizing the amount of energy  
9       consumed so that our customer doesn't have to pay  
10      for it. And they do appreciate it when it  
11      happens. They recognize it. Because we always  
12      hear it. They come out to us with the bill, did  
13      you see how much money the bill was this month.

14             And, you know, it's hard. So that's  
15      been a focus forever with -- Let me find my  
16      comments. There is a great need for empirical  
17      data so that we do understand how people are using  
18      them. I have looked at the ADM study as well and  
19      it is not a very large number of pools that they  
20      attacked. The pools that are being built these  
21      days are quite a bit smaller than what they were  
22      even back then. In fact, if pools are being built  
23      at all given the economy.

24             I know we're running short on time.  
25      I'll just leave it at we really are asking for the

1 three-quarter, single-speed, full-rated, 1.25  
2 total horsepower to be included as a tool. Not as  
3 the go-to but as a tool. We are also offering the  
4 education of all of our members through --

5 PRESIDING MEMBER ROSENFELD: I'm sorry,  
6 I didn't understand that language. As a tool and  
7 not as a go-to?

8 MR. GARDNER: Not as a mandatory thing.  
9 Not as something that we would always encourage  
10 but as a tool that will give us something to go to  
11 for a particular pool but not as a standard. If  
12 we run into a backyard that needs a horse-and-a-  
13 half pump, absolutely we are encouraging them and  
14 in favor of the two-speed. We do support what you  
15 have been doing and what has been going on.  
16 Because it does save energy at that level.

17 But if we can get down to a three-  
18 quarter horse from a one horse, a horse-and-a-half  
19 or a two-horse, we will have saved an awful lot of  
20 energy right there just by dropping to three-  
21 quarter rather than staying at the same horsepower  
22 at two-speed.

23 PRESIDING MEMBER ROSENFELD: Gary  
24 doesn't dispute that. It's the further economic  
25 savings that I'm concerned with. Okay.

Despite Gary's statement that you have huddled a lot I would like to talk to you, the five of you, for a couple of minutes in a couple of minutes.

I'm sorry, Gary, you get the last word.

No?

Did you finish?

MR. GARDNER: Yes I did, thank you.

PRESIDING MEMBER ROSENFELD: Okay.

MR. GARDNER: You were still talking. I didn't want to walk away while you were talking. It seems like it's rude.

PRESIDING MEMBER ROSENFELD: So it's  
12:20 and the schedule is supposed to begin again  
at 1:30.

Do either of you have comments? Tim or Commissioner Pfannenstiel?

ASSOCIATE MEMBER PFANNENSTIEL: No.

PRESIDING MEMBER ROSENFELD: Ivin,

staff?

Let's talk down there for a couple of minutes. Thank you very much, see you at 1:30.

(Whereupon, the lunch recess  
was taken.)

--oOo--

## 1 AFTERNOON SESSION

2 PRESIDING MEMBER ROSENFELD: This  
3 afternoon is metal halide luminaires and I guess  
4 Gary Flamm is going to illuminate us.

5 (Laughter)

6 MR. FLAMM: Thank you. My name is Gary  
7 Flamm, Energy Commission staff. I guess I need to  
8 do the lights here.

9 The Energy Commission first started  
10 looking at metal halide luminaires, I guess around  
11 2003 we got some proposals from PG&E and ACEEE.  
12 And so we adopted energy standards for metal  
13 halide luminaires 150 to 500 watts in 2004.

14 And there were two tiers. One tier  
15 became effective in 2006 and the second tier  
16 became effective January 1, 2008. Basically it  
17 prohibits the use of probe-start lamps and  
18 requires ballasts at least 88 percent efficient.

19 Recently the EISA 2007 established  
20 federal standards for metal halide luminaires that  
21 become effective January 1, 2009. It allows some  
22 use of probe-start lamps and requires ballast-  
23 efficiencies between 88 to 94 percent, depending  
24 on the application. And it allows California to  
25 adopt revised standards by December 31, 2011.

1           So for this round PG&E presented a  
2       proposal, a case study. It was a PG&E/ACEEE  
3       combined proposal. Which was last modified April  
4       3 and that's the version we have been looking at.

5           And it proposes revising the current  
6       Title 20 regulations that the ballast efficiency  
7       would go up to around 90, 92 percent, which is  
8       equivalent to an electronic ballast or a very  
9       superior magnetic ballast.

10          And it is very important because the  
11       energy savings was going to help us meet the 1109  
12       indoor commercial and outdoor lighting standards.  
13       For those who are not familiar, by 2018 we need to  
14       reduce commercial lighting by 25 percent and we  
15       need to reduce outdoor lighting by 25 percent.

16          The proposal in these standards, these  
17       regulations, in addition to the minimum ballast  
18       efficiencies there is a alternate compliance path  
19       that we look at as off ramp to the efficient  
20       ballast. And one of those off ramps is integral  
21       controls that are integrated into the luminaire.  
22       And we have a definition of what that means for  
23       indoor or outdoor luminaires. Or another  
24       compliance path through non-conventional wattage  
25       lamps.

1           So here is the proposed language. Metal  
2       halide luminaires rated 150 to 500 watts,  
3       manufactured on or after January 1, 2010, shall  
4       not have probe-start ballasts, and shall comply  
5       with either Path A or B.

6           A is for smaller wattage lamps, 90  
7       percent efficient ballasts. And for larger  
8       wattage lamps, 92 percent efficient ballasts.

9           Or Option B. There's three options,  
10      sub-options. Which is an integral occupant  
11      sensor, as defined; an integral automatic daylight  
12      control, as defined; or unconventional wattage,  
13      which has a sunset date of December 31, 2013.

14          There are exceptions that are very  
15      similar to the exceptions that are currently on  
16      the books for California. The exceptions to the  
17      ballast efficiencies are if it is a regulated lag  
18      ballast; an electronic ballast operating at 480  
19      volts; or a ballast that meets all three of the  
20      following: rated only for 150 watt lamps, for wet  
21      locations, and for hot locations as specified.

22          The estimates from the latest study have  
23      an incremental cost for this improvement of \$75  
24      per luminaire and expected to save \$200 over the  
25      life so the proposed standard is cost-effective.

1 And the annual statewide energy use is expected to  
2 be 4,010 million kilowatt hours as of 2008.

3 And that's the end of my presentation.

4 PRESIDING MEMBER ROSENFELD: Gary, I  
5 don't understand what it means to say, as of 2008.

6 MR. FLAMM: I'm sorry, Bill (sic), I  
7 didn't understand you.

8 PRESIDING MEMBER ROSENFELD: I don't  
9 understand.

10 MR. FLAMM: Oh, that was Commissioner --

11 PRESIDING MEMBER ROSENFELD: Two billion  
12 kilowatt hours as of 2008.

13 ADVISOR TUTT: On your last slide there.

14 PRESIDING MEMBER ROSENFELD: At the very  
15 bottom. I just don't understand what the as of  
16 2008 means.

17 MR. FLAMM: I think that's looking at  
18 the first year energy savings. You know, based  
19 upon the energy.

20 PRESIDING MEMBER ROSENFELD: Oh boy.

21 ADVISOR TUTT: That sounds like savings,  
22 maybe not use.

23 MR. SINGH: It's the energy use.

24 MR. FLAMM: Oh, the energy use.

25 ADVISOR TUTT: In that year?

1 MR. FLAMM: Okay.

2 PRESIDING MEMBER ROSENFELD: Oh, it's  
3 not savings at all. I just can't read it.

4 MR. FLAMM: Okay, it's energy use.

5 PRESIDING MEMBER ROSENFELD: I'm sorry.

6 MR. FLAMM: I apologize, I misread that.

7 ADVISOR TUTT: So that's the energy use  
8 for all outdoor lighting or all metal halide  
9 lighting or how do you know that number?

10 MR. SINGH: It's all metal halide  
11 lighting.

12 PRESIDING MEMBER ROSENFELD: It's all  
13 what, Harinder?

14 MR. SINGH: It's all metal halide  
15 lighting energy use.

16 PRESIDING MEMBER ROSENFELD: Okay. It's  
17 two percent of state power, it's big. Okay.

18 MR. FLAMM: Okay. Any questions on my  
19 presentation? If not I believe we are going to  
20 move to the PG&E team that is going to make a  
21 presentation. And Steve Nadel, are you on line?

22 Okay, your counterpart is not on line.  
23 So perhaps Amanda can come up and you can start  
24 your presentation while Ted hunts Steve down.

25 MR. RIDER: I'm sorry, he is on the

1 line.

2 MR. FLAMM: He is on the line?

3 MR. RIDER: Yes. Do you want me to  
4 patch him through? Okay.

5 MR. NADEL: Can you hear me?

6 PRESIDING MEMBER ROSENFELD: Yes, Steve,  
7 good afternoon.

8 MR. FLAMM: We can hear you.

9 MR. NADEL: Good afternoon. I kept on  
10 hearing people saying, I don't know where Steve  
11 is. I kept trying to talk more loudly. Is this  
12 volume about right?

13 PRESIDING MEMBER ROSENFELD: Yes, you  
14 are fine, Steve.

15 MR. NADEL: Okay, very good. Well, I  
16 appreciate the opportunity to talk here now. I am  
17 trying to save a little bit of energy by not  
18 flying out round trip for basically this roughly  
19 one hour session. Hopefully we can do this via  
20 conference phone.

21 On behalf of the PG&E team we are happy  
22 to support just about all aspects of this proposed  
23 standard. As Gary mentioned, it is based quite  
24 extensively on the PG&E team's recommendations and  
25 case study.

1 Gary has certainly made quite a few  
2 modifications and provided a lot of valued added.  
3 There was a lot of back and forth between our team  
4 and the NEMA team, who I assume will be speaking  
5 shortly. So this represents a lot of compromise,  
6 a lot of progress on many of the outstanding  
7 issues. I think this is a very good proposal.

8 What I wanted to do here is make one  
9 suggestion for improvement and then talk about a  
10 couple of things that weren't done in this  
11 proposal that we think do make sense. I'll  
12 describe a little bit the rationale behind that.

13 The one change we would like to suggest  
14 is that for the low wattage lamp case there is now  
15 a category where instead of 400 watt lamps that  
16 you use a lamp up to 350 watts. We recommend that  
17 that 350 watt maximum be reduced to 335 watts.

18 What happens is all the manufacturers  
19 have 320 watt lamps and 350 watt lamps. The 350  
20 watt lamps have been around for a long time. They  
21 were designed to be a somewhat energy-saving  
22 replacement for these lamps. The 320s were  
23 developed more recently on average and those are  
24 designed to provide effectively about the same  
25 light output as many of the old 400 watt lamps

1 using pulse-start technology and using a very  
2 high-efficiency ballast.

3 There's clearly extra energy that can be  
4 saved if you use a 320 watt lamp instead of a 350  
5 watt lamp. All five of the significant  
6 manufacturers have 320 watt product. It's not  
7 like there's a rationale for industry competitive  
8 reasons.

9 And I believe there is a chart that  
10 Amanda is now showing you, the light output, the  
11 mean lumens. The 320 watt category fully  
12 encompasses the 350 watt category. That's looking  
13 at a graph of a lot of the products now on the  
14 market and using mean lumens from manufacturer  
15 catalogs.

16 So we believe for this exception we can  
17 increase the energy savings by capping it at 335  
18 instead of 350. We picked 335 as roughly the  
19 midpoint between the current 320 watt lamps and  
20 the current 350 watt lamps. So that's our one  
21 recommendation.

22 A couple of other things I wanted to  
23 note. We do support the phase-out of the low  
24 wattage lamp compliance path as of 2014. The idea  
25 here is that electronics, the 90 or 92 percent

1 efficient ballasts that Gary talked about, are  
2 still going through additional development. They  
3 work pretty well but there are some outdoor and  
4 high temperature applications where they are not  
5 quite appropriate yet.

6 Based on our research we think it is  
7 highly, highly likely that they will be far along  
8 in 2014 and therefore it is appropriate to phase  
9 out those low wattage lamp compliance paths and  
10 just push everybody towards these electronic  
11 ballast or equivalent performers.

12 However, while we do support 2014 we are  
13 open to if in 2012 or 2013 they are not as far  
14 along as we are pretty confident they will be, to  
15 consider at that point delays in the effective  
16 date. But under the federal law, the law passed  
17 last year by the federal government, California  
18 has a one-time opportunity to not be preempted by  
19 federal standards. And that's a standard that  
20 they adopt as part of this rulemaking. This  
21 exemption from preemption expires the end of next  
22 year.

23 So by our reading, if California were to  
24 set a date, call it 2016 and then decided they can  
25 move it up, you would be preempted. However, if

1       you decide now it is 2014 and you say well, you  
2       want to relax it, our interpretation is, and you  
3       should check with your legal counsel as well. You  
4       can delay something, it is not tightening it, it  
5       is loosening it, and you shouldn't have a problem  
6       with preemption but the reverse could be  
7       problematical.

8               So we do support the 2014 date but  
9       subject to, you know, come 2012 or 2013 how these  
10      products are doing. We are quite confident that  
11      they will be along to meet all applications but  
12      recognize that there is some uncertainty and that  
13      could be better addressed in the 2012, 2013 time  
14      frame than trying to do it here and now.

15             Another thing I would note is that in  
16      our very early case study we had recommended some  
17      broader exemptions for some of the outdoor fixture  
18      applications. That was before this low wattage  
19      path, before these control paths were added. Now  
20      that we have multiple compliance paths we don't  
21      believe we no longer need an exemption for these  
22      outdoor fixture types. We think with the low  
23      wattage paths, with these control paths, all  
24      applications can find an appropriate application.  
25      Find an appropriate product to meet the

1 application.

2 So one other thing I point out is that  
3 this particular proposal involves just metal  
4 halide luminaires. The other major category,  
5 particularly in outdoor lighting, is high pressure  
6 sodium.

7 The PG&E team started to look at this as  
8 part of this case study, realized there were quite  
9 a few issues, not insurmountable but a number of  
10 new issues that are raised because we hadn't done  
11 as much work on high pressure sodium. And given  
12 the very quick pace of this rulemaking we decided  
13 to just concentrate on metal halide now. However,  
14 the PG&E's team intends to look at high pressure  
15 sodium next year and quite possibly recommend  
16 standards for the high pressure sodium fixtures.

17 The reason I mention it is I know there  
18 is some concern that if we ramp down this much on  
19 the metal halide fixtures some people may start  
20 using high pressure sodium, which are unregulated  
21 and might be cheaper. But it is certainly our  
22 intent long before 2014 when the compliance paths  
23 phase out to have a good proposal that hopefully  
24 you guys will consider and adopt. A good proposal  
25 for high pressure sodium lamps. We think that can

1 be done. And address concerns about, gee, will  
2 high pressure sodium sales grow.

3 So those were the different points I  
4 wanted to make. One, basically accept the current  
5 proposal. To reduce the wattage from 350 to 335  
6 for the low wattage compliance path. Two, keep  
7 the 2014 effective date, update, for that low  
8 wattage lamp path. Three, continue to cover  
9 outdoor fixtures because of the low watt lamp and  
10 the control pathways. There are different  
11 pathways for all the different products to meet.

12 And I say be open to a high pressure  
13 sodium fixture standard that would be somewhat  
14 comparable to this that would basically improve  
15 both categories and allow them both to be  
16 efficient.

17 So that concludes the comments I wanted  
18 to make. Jennifer Thorne Amann on our staff is  
19 also on the phone, I believe, and Amanda is there.  
20 Jen and Amanda, do you have anything you want to  
21 add?

22 MS. STEVENS: No I don't.

23 PRESIDING MEMBER ROSENFELD: Steve, this  
24 is Art Rosenfeld, I have a question.

25 MR. NADEL: Please.

1                   PRESIDING MEMBER ROSENFELD: I guess I  
2       don't understand what happens to the 350 and 400  
3       watt lamps which you are showing us are not as  
4       good in lumens per watt. What happens to that  
5       whole line?

6                   MR. NADEL: What happens to the line?  
7       What would happen -- I mean, under the current  
8       proposal if you wanted to use up -- you can't  
9       really, you can't use a 400 watt lamp unless you  
10      use a very high efficiency ballast, a 90 or 92  
11      percent efficiency. Because you get the  
12      efficiency improvements through the ballast.

13                  An alternative path is to, under the  
14      current proposal to allow either 320 or 350 watt  
15      lamps to be used with a less-efficient ballast.

16                  What we are recommending is that the  
17      less efficient ballast option only be for 320 watt  
18      lamps and not be for the 350. For the 350s you  
19      have use the more efficient ballast.

20                  PRESIDING MEMBER ROSENFELD: Thank you.

21                  MR. NADEL: Does that --

22                  PRESIDING MEMBER ROSENFELD: That's  
23      quite clear, thank you.

24                  MR. NADEL: Sure.

25                  PRESIDING MEMBER ROSENFELD: Questions

1 or comments?

2 MR. FLAMM: So I believe at this time  
3 NEMA would like to make a presentation. Do you  
4 have a presentation or do you just want to make  
5 comments?

6 MS. ENGLISH: Just comments.

7 MR. FLAMM: Okay, NEMA is on the agenda  
8 to make comments.

9 MS. ENGLISH: Good afternoon, Cheryl  
10 English, Acuity Brands Lighting. I guess a couple  
11 of points to start with on some of the data that  
12 was just presented. Let's see here. Let me just  
13 start to my comments and we can get to the  
14 questions.

15 First off I just -- Great kudos to Gary  
16 Flamm through this process of herding the cats  
17 because he really has done a very good job of  
18 coordinating and collaborating with both sides of  
19 this issue.

20 I think to start out with it is helpful  
21 to talk about the history of this proposal for  
22 2008 and where it started with the primary focus  
23 on electronic metal halide ballasts. The  
24 efficiencies associated with that are typically  
25 about four to six percent with mean lamp lumen

1 improvements you are talking about nine to ten  
2 percent savings. And understanding AB 1109 and  
3 the priorities there we stepped back and we said,  
4 let's really focus on where the energy savings  
5 are, and it is not on ballast efficiency.

6 (Whereupon, there was  
7 teleconference interference.)

8 ASSOCIATE MEMBER PFANNENSTIEL: Would  
9 you check with the operator and see what is going  
10 on with the phones.

11 MR. RIDER: It's feedback. They had the  
12 lines open, we'll close them now.

13 ASSOCIATE MEMBER PFANNENSTIEL: Thank  
14 you.

15 MS. ENGLISH: Okay, thank you. So the  
16 greater savings associated with metal halide would  
17 really be controlling the time of use. And so we  
18 stepped back and said, controls are really the  
19 answer to getting to the AB 1109 thresholds of  
20 those savings. What do we know that is tried,  
21 proven, cost-effective? And we came back with a  
22 proposal for regulating controls, integral  
23 controls into indoor HID products.

24 And I think that proposal was well-  
25 received. We believe that it is a solid proposal,

1       it has substantial energy savings. The intent was  
2       only integral controls for indoor, hi-bay and low-  
3       bay types of products. As we came back with a lot  
4       of variations and compromises on this I think the  
5       code language has really morphed into something  
6       that was never really intended.

7               We are here at 45-day language. We do  
8       need to come up with some agreeable language, we  
9       recognize that. But I would encourage us to step  
10      back and really make an assessment on whether or  
11      not what we have today is going to be effective.  
12      Is it going to save energy and is it going to be  
13      enforceable.

14             So some of the issues that we see in  
15      this currently are -- and I'll start with the  
16      electronic ballast issue. The \$75 cost adder that  
17      is expressed there. We have commented previously  
18      that that is not an accurate end user cost. We  
19      had recommended that \$100 is more representative.  
20      Quite honestly it is \$100 to \$125 depending on the  
21      characteristics that are required of that ballast.

22             But that is only for the component.  
23      What you have regulated is a metal halide  
24      luminaire. That component is not readily  
25      adaptable into existing luminaires because of the

1 thermal management associated with the  
2 electronics.

3 So in order to accommodate that thermal  
4 aspect for indoor luminaires the ballast housing  
5 has to be redesigned with fins to cool that  
6 ballast. Our engineering group has said that they  
7 believe that there's probably about a 30 percent  
8 incremental aspect of more material into that  
9 ballast housing.

10 If it is an outdoor luminaire the size  
11 of the housing has to be increased. The effective  
12 projected area in one case that we looked at went  
13 from 2.3 square feet to 3.3 square feet, which is  
14 a 50 percent increase in the material associated  
15 with that housing for that fixture. Then we've  
16 got --

17 PRESIDING MEMBER ROSENFELD: Is that all  
18 associated with more cooling, Cheryl?

19 MS. ENGLISH: Yes. Then, you know, with  
20 that additional area the pole sizing has to be  
21 larger. So you're talking about going from a  
22 four-inch steel pull to a five-inch steel pole.  
23 So you are adding 50 percent more material. The  
24 cost of that pole, incremental cost of that pole  
25 is about \$800. So we are not talking about a \$75

1 or \$100 component adder because we are looking at  
2 the end-use product here. So it is very  
3 significant in terms of the cost.

4 The other technical issues associated  
5 with power quality and reliability are very real.  
6 Electronics are sensitive. And this is primarily  
7 related to outdoor products. I think that we can  
8 get improvements on indoor characteristics for  
9 electronic ballasts.

10 But on outdoor with unregulated power  
11 quality and surges there are going to be a lot of  
12 issues in using electronics in those kinds of  
13 applications. Can we add additional filters and  
14 things to address that, yes, but then we are even  
15 talking about a higher increment that really  
16 addresses whether or not this is cost-effective.

17 The second area of this proposal related  
18 to controls. Our proposal was integral controls  
19 because we recognize Title 20 as being an  
20 appliance standard. What is regulated is what is  
21 sold in a box and sold to the field. And we felt  
22 like that was reasonable. We did not intend for  
23 it to be extended to outdoor products because the  
24 best control strategy for outdoor is not integral  
25 controls.

1                   We have done test cases at Mondavi  
2           Center with outdoor lighting and controls. We  
3           hardly endorse the use of controls for outdoor  
4           lighting. But they tend to get application-  
5           specific and it is not a one-for-one match-up of a  
6           control unit, a sensor, to each luminaire. It has  
7           to do with the geometry of the site. There are  
8           obviously a lot of safety and security issues as  
9           you start dimming down outdoor lighting.

10                   For indoor lighting the daylight  
11           controls when it is integral means that that  
12           sensor is close to the luminaire rather than close  
13           to the skylight or where the daylight is being  
14           measured. So the sensitivity of that control unit  
15           is compromised because it has to then filter out  
16           what it is seeing from the fixture versus what it  
17           is seeing from the daylight. It requires what is  
18           closed a closed-loop system where a control point  
19           would be communicating with other control points.  
20           And again, feasible. Not the most effective  
21           solution, not the most cost-effective solution.

22                   Dimming also remains an issue with metal  
23           halide systems, both electronic and pulse-start  
24           types of systems. There are no industry solutions  
25           for dimming with horizontally-lamped luminaires.

1 and the majority of outdoor products do contain a  
2 horizontal lamp.

3 The data that was shown here on this  
4 graph that is up on the screen right now of the  
5 various lamps. We have some questions about that  
6 data. We are not aware of any commercially  
7 available 300 watt lamps. And that particular  
8 graph does not distinguish between burning  
9 positions, whether it is horizontal or vertical or  
10 universal burn.

11 This was an issue we brought up in 2005.  
12 We brought very specific data to show the gaps in  
13 the marketplace where there were not lamps  
14 available for the technology. And to be perfectly  
15 honest, there are still gaps today of lamps that  
16 are not available for certain wattages and certain  
17 burning positions. We have closed the gap a lot  
18 since 2005. But it was a code that was put  
19 together prematurely, assuming that the technology  
20 would be there.

21 With the lack of that technology what  
22 has happened in California is a lack of  
23 enforcement. There is no technology that can meet  
24 the 2005 standard, quite honestly. It has not  
25 been enforced. I don't think you are getting the

1 energy savings. So our goal here is really to  
2 craft language that can be enforced, that can be  
3 simple, so that we actually get those energy  
4 savings.

5 With regard to the reduce lamp wattage  
6 solution. We believe that this could potentially,  
7 the sunset clause could inhibit the use of outdoor  
8 controls. If this goes through forward as it is  
9 today with the 2014 sunset, that is the viable  
10 option for most of the outdoor solutions. If it  
11 goes away what it means is that those outdoor  
12 products are either going to use electronic  
13 ballasts, which we believe is highly unlikely in  
14 addressing the surge and thermal protection.

15 It then means that that product has to  
16 be shipped with an integral control. Are those  
17 solutions going to use those non-integral controls  
18 when they have already had to buy a box that ships  
19 with an integral control? No they are not. So  
20 again the issue is primarily the outdoor lighting.

21 Integral controls for outdoor does not  
22 make sense for a lot of applications. Sports  
23 lighting, areas with security cameras where the  
24 lights have to remain on for safety and security  
25 purposes, visibility purposes. Parking garages,

1 street and roadway lighting. You know, those  
2 areas are probably not likely to be the best  
3 candidates for dimming solutions.

4 We do believe that there are some  
5 applications such as parking lots where there's a  
6 lot of potential for energy savings with controls  
7 but it is not integral. It's non-integral  
8 controls.

9 So where we are at today is that I think  
10 through the proposed language virtually all of our  
11 comments have been addressed. We do not support  
12 the 2014 sunset. There is nothing to prove that  
13 the technology is going to address these issues  
14 for outdoor lighting with regard to the power  
15 quality and surge protection.

16 We have no idea what the costs will be  
17 associated with that and whether that is really  
18 effective for the consumers of California. Plus  
19 the current code is very complicated and I  
20 seriously doubt whether it could ever be enforced  
21 with the system that we have here today.

22 So we have exposed you to some technical  
23 issues that we have concerns about. Going forward  
24 we certainly want to be involved in a process that  
25 is more rigorous in terms of validating the

1 technological feasibility, the cost-effectiveness  
2 and the energy savings potential because we raised  
3 a number of questions with regard to the original  
4 PG&E case proposal.

5 The 2014 sunset is unacceptable and it  
6 needs to be removed.

7 The case study, the PG&E case study  
8 actually had suggested an exemption for outdoor  
9 luminaires because of these technical issues we  
10 raised but today there is still no exemption for  
11 outdoor fixtures in the proposed code.

12 Recognizing the dilemma that we are here  
13 with AB 1109 and the need to establish a  
14 regulation, our recommendation would be to keep  
15 indoor products, indoor metal halide products,  
16 with the current proposal. So that it would allow  
17 electronic ballasts, it would allow pulse-start  
18 with controls, or it would allow pulse-start with  
19 a reduced lamp wattage.

20 My personal opinion, we have not had a  
21 chance to, you know, route Steve's proposal on  
22 this 335 range so I can give you my company's  
23 perspective. But I really don't seen any  
24 significant issues with that. I don't know that  
25 it is going to get you the energy savings because

1       it may force people down to a 320 watt lamp and  
2       they will simply use more luminaires. So the  
3       question is, really is it going to save energy.  
4       But I think that we could certainly entertain that  
5       among the rest of the NEMA members.

6               With regard to outdoor lighting our  
7       recommendation would be to keep the 88 percent  
8       ballast efficiency requirement that is in place  
9       today and add a requirement that they have to use  
10      these reduced lamp wattages. We would prefer to  
11      not see any requirements related to controls for  
12      outdoor in this Title 20 requirement because we  
13      think that the control solutions are best handled  
14      by application type. We would be more than  
15      willing to work with you on Title 24 that works  
16      specifically with applications to build in  
17      requirements for lighting controls for outdoor  
18      lighting.

19             And I think that's the extent of my  
20      comments, thank you. Some of the other NEMA  
21      members may choose to make comments.

22             MR. PENNINGTON: Could I ask a question?

23             PRESIDING MEMBER ROSENFELD: Please,  
24      Bill.

25             MR. PENNINGTON: Cheryl, could I ask you

1 a question. You said that you would recommend for  
2 outdoor, in addition to the 88 percent to require  
3 the use of the reduced wattages.

4 MS. ENGLISH: Right.

5 MR. PENNINGTON: What do you mean by  
6 require?

7 MS. ENGLISH: Those wattage ranges that  
8 are in there today, we would support that. If we  
9 need to go down to a 320 we could certainly  
10 entertain that.

11 MR. PENNINGTON: Okay. So you didn't  
12 mean to disallow 400s totally for outdoor and move  
13 to 335s as a required. I didn't understand what  
14 you meant by required.

15 MS. ENGLISH: That is what we are  
16 proposing, is that a 400 watt would no longer be a  
17 viable solution.

18 MR. PENNINGTON: Would not be allowed in  
19 California.

20 MS. ENGLISH: For outdoor lighting.  
21 Today you have the 88 percent ballast efficiency.  
22 I will tell you, you are not getting the energy  
23 savings because the marketplace has not adopted  
24 the 2005 standard. So you have the 88 percent  
25 today. And we are saying, in addition to that the

1 lamp wattage ranges would have to comply with  
2 those ranges that are in the proposed code in  
3 order to get you the additional energy savings.  
4 Those are lamp and ballast systems that exist  
5 today.

6 MR. PENNINGTON: So we would have to  
7 rewrite the proposal to disallow 400 watt lamps in  
8 outdoor application.

9 PRESIDING MEMBER ROSENFELD: As a matter  
10 of fact I think she said 400 and 350.

11 MS. ENGLISH: Right.

12 MR. PENNINGTON: So that's correct,  
13 that's what you are saying.

14 MS. ENGLISH: Yes. And I think it is  
15 actually -- You know, we didn't spend the time  
16 here wordsmithing the proposed code language but I  
17 don't know that it is that significant of a change  
18 because it is in there today. We just need to  
19 break out how indoor products are handled and how  
20 outdoor products are handled.

21 On the enforcement issue. And I know  
22 it's not part of an agenda today. But we would  
23 very much like to sit down, maybe at CLTC with a  
24 group, to really craft out what can we  
25 collectively do with the Commission and with

1 industry to better educate. We have communicated  
2 in our best efforts to the marketplace these  
3 requirements.

4 There is, and I have mentioned this  
5 previously. There is a perspective of who holds  
6 the legal responsibility of compliance. The sales  
7 channels through, you know, home centers,  
8 showrooms, distributors, contractors believe that  
9 they are not liable, that it is the manufacturer.  
10 I am not a lawyer so I can't say exactly who is  
11 responsible. But ultimately the marketplace has  
12 not chosen to purchase those products and you are  
13 not getting the energy savings.

14 If we focus on that we may be able to  
15 back off some of these very, very restrictive  
16 regulatory processes and actually get the energy  
17 savings that you really want. I don't think it is  
18 about the regulation, it is about saving the  
19 energy.

20 ADVISOR TUTT: Cheryl, can I ask you a  
21 question?

22 MS. ENGLISH: Yes.

23 ADVISOR TUTT: As I understand, you did  
24 propose early on in this process back and forth  
25 that a controls option would be a good policy to

1 consider.

2 MS. ENGLISH: Yes.

3 ADVISOR TUTT: So in a situation -- And  
4 I know you were talking indoor lighting.

5 MS. ENGLISH: Yes.

6 ADVISOR TUTT: In a situation where you  
7 have an indoor luminaire that burns out, what  
8 would the controls option be? One luminaire in an  
9 installation in a large store, for example.

10 MS. ENGLISH: It would be replaced --  
11 Chances are if it burns out they are going to go  
12 in and replace a ballast or a capacitor or  
13 whatever actually failed. They are typically not  
14 going to replace the entire luminaire if it is a  
15 maintenance type of issue. But if they chose to  
16 replace that luminaire they would be replacing it  
17 with a fixture that has an integral control. And  
18 it means that if the area was unoccupied that one  
19 luminaire would go out. It would not control the  
20 rest of the luminaires in that space.

21 ADVISOR TUTT: In the standards proposal  
22 we have in front of us. But was that what you  
23 were proposing when you proposed a controls option  
24 for this?

25 MS. ENGLISH: Well, the focus of what

1 the real impact is is on new construction and  
2 major renovations.

3 ADVISOR TUTT: A Title 24 focus, right?

4 MS. ENGLISH: Well not necessarily.  
5 This Title 20 covers new construction and major  
6 renovation as well because the products have to  
7 comply with Title 20 as well as with Title 24.

8 ADVISOR TUTT: Right.

9 MS. ENGLISH: So this is where this  
10 blending is getting very clumsy between Title 24  
11 and Title 20 and we are getting close to having  
12 dual standards. We are finding things in Title 20  
13 that are application-based. We are finding things  
14 in Title 24 that are product-based. I think we  
15 need to think very carefully as we move forward of  
16 what goes where. How do we manage applications  
17 versus products, or widgets if you will.

18 But what you have described is if one  
19 burns out, they would replace that with a fixture  
20 that has an integral control and it would turn off  
21 only that fixture.

22 ADVISOR TUTT: Right, in the current  
23 proposal.

24 MS. ENGLISH: I would love to find a way  
25 that, you know -- Gary Fernstrom and I this

1 morning were talking about, are there some  
2 opportunities to really get after the existing  
3 building stock. Because that is where a lot of  
4 the energy savings -- If we could go into  
5 warehouses and really turn those to more energy  
6 efficient solutions it would make a lot of sense.

7 PRESIDING MEMBER ROSENFELD: Right.

8 MS. ENGLISH: We have some ideas outside  
9 the scope of the meeting here. But I, I would  
10 like to get some of our collaborative meetings  
11 maybe back on to a quarterly schedule so that we  
12 can share some of these ideas and actually make  
13 them happen.

14 ADVISOR TUTT: Thank you.

15 MS. ENGLISH: Thank you.

16 PRESIDING MEMBER ROSENFELD: Are there  
17 other public comments? NEMA?

18 Gary, I guess you are up.

19 MR. FLAMM: You have comments? There  
20 are some comments, Commissioner.

21 PRESIDING MEMBER ROSENFELD: Please come  
22 up.

23 MR. GREEN: I'm John Green. I'm with  
24 Cooper Lighting. I'd like to comment on the  
25 outdoor application of electronic ballasts.

1           I know the Commission has heard  
2       testimony before about the dangers and the  
3       problems that might occur with the application of  
4       electronic ballasts outdoors. I would just like  
5       to reinforce that with a couple of personal  
6       comments.

7           For magnetic ballasts, and this has been  
8       in effect for quite a while, there has been a  
9       measurement called the BIL, which is a basic  
10      insulation measurement of how well ballasts can  
11      withstand transience in the field. And for  
12      magnetics it has been required, especially by  
13      utilities, to have a 7.5 to 10,000 volt impulse  
14      level that they have to withstand. This is  
15      typical for outdoor.

16           PRESIDING MEMBER ROSENFELD: Could you  
17      say it again. Basic insulation level?

18           MR. GREEN: Yes. And this point I know  
19      of no electronic ballasts that carry this rating.  
20      And I think that speaks very well to the ability  
21      of these ballasts to not at this point be able to  
22      withstand a lot of these outdoor applications.

23           The other comment I would like to  
24      contribute is that I do a lot of field service  
25      work for a lighting company. And we have --

1       Within the past few months I have been involved  
2       with at least two jobs with the application of  
3       electronic HID ballasts in parking garages. These  
4       are technically outdoor applications but they are  
5       really on the low end of what they might see in  
6       transient voltage exposure. And we have had up to  
7       80 percent failure rates with electronic ballasts  
8       in these applications.

9               It is very expensive to replace ballasts  
10       and bring these facilities back on-line,  
11       especially when you are faced with safety issues  
12       in parking garages. I'm sure everyone is aware of  
13       how that can go in a legal environment. And at  
14       this point there are no good solutions for these  
15       types of problems. And I just know when these  
16       things get further out into other applications  
17       such as street lighting and parking lot areas that  
18       the exposure to these transients is going to be  
19       much higher than what we have seen in these  
20       parking garages.

21              That's just some real-life exposure to  
22       the application issues that can come up with  
23       electronic ballasts.

24              PRESIDING MEMBER ROSENFELD: These are  
25       all comments about outdoor lighting?

1                   MR. GREEN: Yes, this is all outdoor.

2                   An application of electronic ballasts outdoors.

3                   PRESIDING MEMBER ROSENFELD: Can you  
4                   explain to me why you get more surges in outdoor  
5                   lighting, in parking garages and so on, than you  
6                   get in a building.

7                   MR. GREEN: Well most of it is  
8                   related --

9                   PRESIDING MEMBER ROSENFELD: I don't  
10                  know where the surges come from except I know they  
11                  exist.

12                  MR. GREEN: Well obviously lightning is  
13                  an issue. And in terms of buildings you have  
14                  filtering that occurs on the power line as it  
15                  comes into a building. The building itself  
16                  actually shields a lot of the electrical potential  
17                  you might get from a lightning strike.

18                  However, you look at street lighting,  
19                  area lights where we have a pole standing out in  
20                  the middle of an open field or out on a roadway.  
21                  The lightning strike doesn't actually have to hit  
22                  one of the poles, it can hit the ground beside it.  
23                  And all that voltage is induced into the system  
24                  with no ways to really filter it out. In  
25                  buildings where there's huge numbers of

1 concentrated fixtures and protection from the  
2 building itself you don't see that.

3           Parking garages are kind of in-between.  
4 They can get lightning strikes close by, they can  
5 get other large -- large motors, say, starting in  
6 some of these facilities. It is that the indoors  
7 is filtered much better and the exposure just  
8 isn't there. But the basic impulse level, the  
9 BIL, was developed just for that reason. That the  
10 outdoor obviously sees these issues a lot more  
11 than the indoor fixture do.

12           ADVISOR TUTT: So you said that there is  
13 no outdoor luminaire with these ratings today.

14           MR. GREEN: I have worked on electronic  
15 HID ballasts since 1975.

16           ADVISOR TUTT: And you haven't seen one.

17           MR. GREEN: And I haven't seen one yet.

18           ADVISOR TUTT: But is someone working on  
19 trying to get a rating like this?

20           MR. GREEN: Well there's a lot -- The  
21 filtering has improved a lot in the 33 years that  
22 I have been exposed to this but they are mostly  
23 for indoor. The transient levels are just from  
24 minor disturbances that come down. They really  
25 put them in the same category as communications

1 equipment. I'm trying to think of some other  
2 ones. TV sets is not really a good one but a lot  
3 of the consumer electronics do have filters as  
4 well. So the electronic ballasts are probably on  
5 a par with those right now. They are not made for  
6 sitting out in a field exposed to the elements,  
7 these transients.

8 ADVISOR TUTT: I guess I had understood  
9 that the industry in general was moving towards  
10 electronic ballasts. Are you saying that they are  
11 probably not going to do that for outdoor?

12 MR. GREEN: Well, it has always been  
13 under consideration. There is just no cost-  
14 effective way to put filters on each one of these  
15 ballasts and give it the protection that we can  
16 see with indoor luminaires. Because on an indoor  
17 luminaire you can have a filter at the  
18 distribution -- at the entrance point to the  
19 building before it gets into the distribution  
20 system. And those are, those are pretty common.

21 But you have a string of street lights  
22 down the road, there's just no way to protect  
23 that. You have to put a filter on each one of the  
24 ballasts. And these could cost, you know, \$100,  
25 \$200 apiece for these filters. And they are

1       available and it could be done but surely no one  
2       wants to pay for them.

3               MR. PENNINGTON: I have a question. I  
4       understood you to say that some utilities require  
5       a threshold on this BIL measurement; is that  
6       correct?

7               MR. GREEN: Yes.

8               MR. PENNINGTON: Do you California  
9       utilities require that?

10              MR. GREEN: I can't answer that. I'm  
11       pretty sure they do.

12              MR. PENNINGTON: Is that a question you  
13       could answer with some evidence?

14              MR. GREEN: Yes, yes I could.

15              PRESIDING MEMBER ROSENFELD: Bill, I'm  
16       sorry, I was taking notes. You said some  
17       utilities do what? I apologize?

18              MR. PENNINGTON: He said that an issue  
19       is that some utilities have a threshold on this  
20       BIL measurement. And I was wondering --

21              PRESIDING MEMBER ROSENFELD: It's got to  
22       be better than something or other.

23              MR. PENNINGTON: Excuse me?

24              PRESIDING MEMBER ROSENFELD: It's got to  
25       be better than something or other.

1                   MR. PENNINGTON: Right. And so I was  
2 wondering if the California utilities impose that.

3                   MR. FERNSTROM: Bill, this is Gary. If  
4 California utilities did it would be for street  
5 lighting products that they buy. I think it is  
6 unlikely that the utility would require that a  
7 product purchased by a customer for use in their  
8 distribution meet a BIL requirement.

9                   MR. PENNINGTON: Do you agree with that,  
10 sir?

11                  MR. GREEN: Well that may be true but  
12 the point was that these requirements are imposed  
13 on outdoor products. The utility has developed  
14 this because they understand the transient issues  
15 in the field. Whether another customer demands  
16 that or not is another question. It doesn't say  
17 that the ballast doesn't need it or that there  
18 won't be failures because of that. But the  
19 utilities have a bigger stake in this because of  
20 the number of luminaires that they place in street  
21 applications.

22                  MR. PENNINGTON: Well perhaps the street  
23 lights are the most vulnerable as well.

24                  MR. GREEN: They probably are, you are  
25 probably correct, yes.

1           MR. FERNSTROM: I agree. The utilities  
2           in Florida, for example, are probably very  
3           concerned about lightning strikes.

4           MR. GREEN: The cost of repairing a  
5           situation where a transient comes in is extremely  
6           high. I'm not sure that has been factored into  
7           the consideration.

8           PRESIDING MEMBER ROSENFELD: So  
9           Mr. Green, what would you actually recommend to us  
10          to do about electronic ballasts outdoors?

11          MR. GREEN: I don't think there is a  
12          solution right now. And as I say, it has been a  
13          lot of years that I have worked on these. And  
14          seeing what has developed over the years I don't  
15          see a cost effective solution at the moment for  
16          the majority of the outdoor applications.

17          I read the PG&E case report and they at  
18          that point had suggested that outdoor be exempted  
19          from that. And I can understand the reason and I  
20          agree with it.

21          PRESIDING MEMBER ROSENFELD: Thank you,  
22          that is very attention-grabbing.

23          MR. GREEN: Thank you very much.

24          MS. STEVENS: Hi, my name is Amanda  
25          Stevens. I am with Energy Solutions here on

1       behalf of PG&E. I just wanted to follow-up on one  
2       comment. I guess we are a little bit surprised by  
3       the pretty bleak prognosis given for outdoor  
4       applications. I would just like to highlight. I  
5       guess we are a little confused. We see NEMA, in  
6       comments to the CEC that were dated May 29 they  
7       wrote, and I quote:

8                       "There has been significant  
9                       progress in the development of  
10                      electronic ballasts for specific  
11                      applications. However, a full line  
12                      of high efficiency electronic  
13                      ballasts with proven reliability  
14                      that will support all applications  
15                      is not anticipated until around  
16                      2015."

17              So I think with the current proposal we  
18       have that offers three different compliance  
19       options beginning in 2010 and two different  
20       compliance options in 2014, it dovetails well with  
21       the expectation that electronic ballasts will be  
22       available in all applications by around 2015. I  
23       just wanted to add that, thank you.

24                      PRESIDING MEMBER ROSENFELD: Thank you.

25                      MR. FLAMM: Cheryl would like to make

1 another comment.

2 PRESIDING MEMBER ROSENFELD: Cheryl,  
3 welcome.

4 MS. ENGLISH: Cheryl English, Acuity  
5 Brands Lighting.

6 I did want to follow up on a couple of  
7 things. On Gary's slides he talked about the  
8 federal metal halide regulation and that it allows  
9 some probe-start lamps. I think it actually meant  
10 to be ballasts on that. And some probe-start  
11 ballasts. It actually does not. We did not want  
12 to have a ban.

13 I am going to defer to somebody else  
14 because I am going to start coughing. I'll be  
15 back.

16 PRESIDING MEMBER ROSENFELD: Do you want  
17 to go on temporarily while Cheryl --

18 MR. FLAMM: Would you like me to move on  
19 to the next topic?

20 PRESIDING MEMBER ROSENFELD: And we will  
21 welcome Cheryl when she comes back.

22 ADVISOR TUTT: I believe that is what  
23 she was asking for.

24 PRESIDING MEMBER ROSENFELD: Yes, all  
25 right.

1                   MR. FLAMM: Okay. So I have a -- I'll  
2 just move on. When she comes back we can have her  
3 jump in again.

4                   PRESIDING MEMBER ROSENFELD: Sure.

5                   MR. FLAMM: To frame the portable  
6 luminaire regulation proposal I want to really  
7 quick go over a little presentation on GU-24  
8 because it kind of frames both something that's  
9 proposed for the general service incandescent  
10 lamps and for portable luminaires.

11                  The GU-24, there are some pictures at  
12 the bottom here, is a 120 volt or line voltage pin  
13 twist socket that was developed by the lighting  
14 industry. And it was developed, it was intended  
15 for only high-efficacy light sources when it was  
16 developed, like compact fluorescents and LEDs.

17                  There are people in the lighting  
18 industry who anticipate that the GU-24 is  
19 eventually going to replace the Edison screw-base  
20 for CFLs and LEDs.

21                  Cheryl, I was going to go through this  
22 and then you can jump up, okay.

23                  The GU-24 products are relatively new in  
24 the market and as such there has not been  
25 significant demand for introducing low-efficacy

1 LED products because there's not many luminaires  
2 with GU-24 bases in them. However, there are no  
3 regulations against doing that.

4 There are a number of efforts going on  
5 nationally, but as of this moment there are no  
6 regulations to keep manufacturers from making low  
7 efficacy products that are drop-in replacements  
8 for the luminaires that were intended to be only  
9 high efficacy.

10 So the GU-24 proposed regulations in  
11 Title 20, they apply to general service  
12 incandescent lamps, portable luminaires, permanent  
13 luminaires and GU-24 adaptors. What the standards  
14 regulations say is that incandescent lamps shall  
15 not contain a GU-24 base. And the reason is, if  
16 we have regulations that allow compliance through  
17 a GU-24 socket, we don't want the market all of a  
18 sudden to come out with incandescent lamps that  
19 fit into those luminaires that were designed or  
20 intended only for high efficacy sources.

21 The regulations also say permanently  
22 installed and portable luminaires with GU-24  
23 sockets basically shall be rated for use, shall  
24 not be rated for use with incandescent lamps of  
25 any type.

1           And GU-24 adaptors. And there is a  
2   picture of a GU-24 adaptor on the bottom right of  
3   this slide. Which somebody came to the market  
4   with as an effort to undermine the energy  
5   efficiency efforts that are going on across the  
6   nation with the GU-24 socket arrangement.

7           What the regulations say is that GU-24  
8   adaptors shall not convert a GU-24 socket to any  
9   other line voltage socket. So those are different  
10  proposed regulations that are in several portions  
11  of the Title 20 regulations. And that's all I  
12  have on that.

13           PRESIDING MEMBER ROSENFELD: Is this  
14  already draft regulation, Gary?

15           MR. FLAMM: I'm sorry, I didn't  
16  understand the question.

17           PRESIDING MEMBER ROSENFELD: This is in  
18  the staff committee report?

19           MR. FLAMM: This is in the staff report,  
20  yes.

21           PRESIDING MEMBER ROSENFELD: You were  
22  just explaining the reasoning behind it.

23           MR. FLAMM: I just explained it because  
24  there has been some confusion. We actually have  
25  three elements in the regulations in different

1 places in the Express Terms. In one place it says  
2 that incandescent lamps shall not have a GU-24  
3 base. In another place it says that you can't  
4 have adaptors to change a GU-24 luminaire to  
5 something else. And, luminaires shall not be  
6 rated for incandescent lamps if they have a GU-24  
7 socket. And also in the portable luminaire  
8 regulations we say, one of the compliance paths is  
9 to have a portable luminaire with a GU-24 socket.  
10 So to kind of pull that all together because it  
11 has been so confusing we broke it out in the staff  
12 report and I broke it out as a separate  
13 presentation here.

14 PRESIDING MEMBER ROSENFELD: And one of  
15 the things it does is to forbid that adaptor,  
16 which you have down there.

17 MR. FLAMM: That is correct.

18 PRESIDING MEMBER ROSENFELD: Good.  
19 Thank you for that mini-presentation.

20 MR. FLAMM: You're welcome. Do you want  
21 to invite Cheryl back up right now?

22 PRESIDING MEMBER ROSENFELD: Yes, I am  
23 going to invite Cheryl back.

24 MS. ENGLISH: Sorry for the  
25 interruption. I have my water now.

1           So on the federal metal halide luminaire  
2 requirements there seems to be a perception that  
3 it allows probe-start ballasts. Generally when we  
4 look at regulations we don't like to ban a  
5 technology because it may limit future  
6 development. So there is a category put in there  
7 for probe-start ballasts that have to be 94  
8 percent efficient. If and in the event that  
9 someone chose to invest some R&D and could achieve  
10 that, that it wouldn't ban future technologies.  
11 There are no probe-start ballasts today that meet  
12 that requirement so the federal requirement  
13 essentially does ban probe-start technology.

14           With regard to Steve Nadel's suggestion  
15 of, let's wait and see and we can waive the 2014  
16 requirement when we get there. We'll know more  
17 about what the technology development is. I find  
18 that very problematic and I again would suggest  
19 that we remove the sunset clause.

20           DOE will be under direction to upgrade  
21 the federal requirements. And if the technology  
22 at the next DOE rulemaking suggests that those  
23 electronics do make sense then we would be  
24 proposing higher efficiencies for the DOE federal  
25 requirements.

1           This wait and see on a piece of  
2       legislation and regulation I find to be very  
3       problematic because we can't plan our businesses  
4       around knowing whether or not this is a  
5       requirement or not. And our investments in our  
6       technologies are typically two to three years in  
7       advance.

8           With regard to the NEMA comments that  
9       were submitted. We do believe that there are  
10      going to be a lot of advances in the electronic  
11      technologies. Our comments I believe were taken  
12      out of context because we do not know whether or  
13      not these issues related to the outdoor lighting  
14      with the power quality and thermal management will  
15      be addressed by those dates. We do know that  
16      there will be a lot more options by those dates.  
17      And we don't know what the cost-effectiveness of  
18      that is going to be.

19           So we are all sitting here today  
20      suggesting information that we have no data on.  
21      And I believe it is a requirement of the  
22      California Energy Commission to write regulations  
23      that have proven energy savings, are proven to be  
24      cost-effective and technologically feasible.

25           There's two aspects of that, actually

1 three aspects, because we don't even know what the  
2 energy savings potential will be on stuff that  
3 doesn't exist. We clearly cannot project the  
4 costs. And we don't know whether or not it will  
5 be technologically feasible. So again, I think  
6 the 2014 sunset does need to be removed. Thank  
7 you.

8 PRESIDING MEMBER ROSENFELD: Does that  
9 conclude metal halides?

10 ADVISOR TUTT: You might ask if there's  
11 any other comments.

12 PRESIDING MEMBER ROSENFELD: I guess  
13 not. I guess we are ready to go on. Portable  
14 luminaires.

15 MR. FLAMM: Okay, we'll move on to  
16 portable luminaires. The Energy Commission  
17 received two initial proposals. One proposal from  
18 PG&E and later a proposal from the American  
19 Lighting Association. The Energy Commission had a  
20 proposal in the Preliminary Staff Report that we  
21 presented on May 15.

22 The PG&E proposal initially evaluated  
23 the idea of recommending compact fluorescents be  
24 prepackaged for sale with screw-based luminaires  
25 and they dropped that. They recommended in their

1 original study to drop that. And the American  
2 Lighting Association asked that this option be  
3 reconsidered.

4 In the American Lighting Association  
5 proposal they proposed to regulate only 20 percent  
6 of the most popular styles that they suggested  
7 would influence 80 percent of the sales. We had a  
8 number of discussions and it was determined that  
9 there's no way that that could be applied. There  
10 is no way to administer such a regulation.

11 So the Energy Commission proposed  
12 melding a few of the initial proposals and worked  
13 together with the different stakeholders. And we  
14 included the limitation on the maximum wattage of  
15 the portable luminaire. The American Lighting  
16 Association argued that that limitation was not  
17 technically feasible.

18 So we basically went back to the drawing  
19 board at that point with the stakeholders. And we  
20 actually came out with a very good proposal that  
21 it is my understanding that all the stakeholders  
22 support. And there are five compliance options  
23 that we are proposing that's supported by all of  
24 the stakeholders. And there's two exceptions to  
25 those, to the proposals. And there's a

1 requirement for reporting the sales data that has  
2 been added.

3 so the five proposals, the five options  
4 for complying with portable luminaires:

5 Number one is that it is equipped with a  
6 dedicated fluorescent lamp socket. That would  
7 mean it is a pin-based socket with an integral  
8 ballast in the luminaire.

9 The second would be it is an LED  
10 luminaire or a portable luminaire using LED  
11 lighting, including the power supply. This does  
12 not mean an LED light bulb. It means an LED  
13 driver of some kind, a light engine.

14 The third option is it is equipped with  
15 a GU-24 socket that can only support high-efficacy  
16 lamps. And that is why I went over that GU-24  
17 presentation.

18 The fourth option, which was proposed by  
19 ALA and initially considered by PG&E, was  
20 prepackaged and sold with high-efficacy compact  
21 fluorescents. The type of fluorescent would be  
22 based on the 2008 Energy Star efficiency levels.  
23 Or they could be packaged with high-efficiency LED  
24 lamps or LED light bulbs.

25 And the fifth option is it is equipped

1 with a single-ended, non-screw-based halogen lamp,  
2 either line voltage or low voltage, and it  
3 includes a dimmer or a high/low control, and shall  
4 be rated for a maximum of 100 watts. So those are  
5 the five options.

6 ALA had requested two exemptions to the  
7 prepackaging of compact fluorescents with the  
8 portable luminaire. Portable wall-mounted  
9 luminaires that meet a list of specified  
10 requirements. And art work luminaires that meet a  
11 list of specified requirements.

12 And then the additional requirements are  
13 that portable luminaires that have internal power  
14 supplies shall have zero standby loss when the  
15 luminaire is turned off. And finally, beginning  
16 in January 2013, manufacturers selling products in  
17 California for non-screw-based halogen luminaires  
18 shall report that sales data to the Energy  
19 Commission.

20 So the estimated energy cost is \$2.50 a  
21 luminaire. That is based upon a prepackaged  
22 compact fluorescent lamp. Which reduced the cost  
23 over the design life of \$26.99. And the current  
24 annual statewide energy use for portable  
25 luminaires is 3,063 million kilowatt hours as of

1 2008.

2 And that is the end of my presentation.

3 So I believe that PG&E is going to, the PG&E team  
4 is going to make a presentation.

5 PRESIDING MEMBER ROSENFELD: Gary, while  
6 you are finding that. I just realized I don't  
7 visualize this. In your next to the last slide  
8 you said, portable wall-mount adjustable  
9 luminaires. What is a portable wall-mounted  
10 adjustable luminaire? I can't visualize it. I  
11 just said that, I guess.

12 MR. FLAMM: There are luminaires that  
13 the American Lighting Association was concerned  
14 with. These are luminaires that they characterize  
15 as typically being put in a bedroom. They are  
16 hung on a wall. They have some kind of an  
17 articulated arm that they come off of the wall.  
18 Typically have a dimmer in them.

19 So they requested that that be exempt  
20 because of the security needs. They were  
21 concerned that a compact fluorescent, even if they  
22 were prepackaged with a dimmable compact  
23 fluorescent, that someone in the future may put  
24 the wrong kind of lamp into that. A non-dimmable  
25 compact fluorescent into that luminaire.

1           So they had some safety concerns and  
2       they requested that that luminaire, which is very  
3       specifically defined. There's probably about ten  
4       elements that it has to meet before it qualifies  
5       as being that wall-mounted luminaire. Is that  
6       enough explanation?

7           PRESIDING MEMBER ROSENFELD: No, that's  
8       fine.

9           MR. FLAMM: Okay.

10          MS. STEVENS: Thank you. Good  
11       afternoon, my name is Amanda Stevens. I am here  
12       on behalf of PG&E. And I would like to thank  
13       everyone here for having us give our points on  
14       portable fixtures. So the PG&E team, the CEC  
15       staff and the ALA have had conference calls since  
16       the May workshop and we feel that these have led  
17       to some very constructive discussions.

18          In general PG&E supports the 45-day  
19       language for portable luminaires. As Gary  
20       mentioned, the proposed rule provides flexibility  
21       through five different compliance options and will  
22       also result in significant energy savings beyond  
23       those which will be captured through the general  
24       service lighting standard and the proposed  
25       acceleration of the federal general service

1       lighting standard in California. The estimated  
2       energy savings from this proposal is between 41  
3       and 62 gigawatt hours and four to six megawatts in  
4       the first year of sales.

5               So as I said, we are in general  
6       agreement with the 45-day language. My comments  
7       today are going to be pretty brief and they are  
8       going to focus on three specific issues. First,  
9       the proposed exemption for the wall-mounted  
10      luminaires that was just discussed. The second  
11      being the Energy Star requirement language for  
12      CFLs. And the third being some minor points about  
13      the LED lamp definition.

14             So regarding the wall-mounted  
15      luminaires. We stated during discussions with ALA  
16      leading up to the 45-day language that we didn't  
17      believe these particular products warranted an  
18      exemption. Although I would like to add that we  
19      do think the proposed definition is pretty tight  
20      so we don't see any real possibility for a  
21      loophole there. But I would like to take just a  
22      few minutes to walk through some of our reasoning  
23      as to why we think these don't really warrant an  
24      exemption.

25             So one of the rationales that was given

1 at first was that they should be exempted because  
2 they were a low volume product. Most of the  
3 people were probably at the May workshop, but the  
4 long-tail distribution was discussed at length  
5 during this workshop. The ship-with-CFL option or  
6 packaged-with-CFL was originally proposed by the  
7 ALA as a way to accommodate these low volume  
8 products in the long-tail distribution. So we  
9 question the rationale for exempting a subset of  
10 fixtures which would now be exempted on these  
11 grounds.

12 And then the second point being that  
13 even packaging dimmable CFLs, as most of these  
14 fixtures are typically dimmable, even assuming the  
15 CFL costs \$10 to \$15, it will still have a three  
16 to four year simple payback.

17 So finally the last point I would like  
18 to make here is that the original intent of the  
19 proposal was to provide an overall cost effective  
20 option while still providing consumers with enough  
21 flexibility to meet their lighting needs.

22 So we have heard there may be some  
23 concerns because the dimmable CFLs available today  
24 don't meet the same range of dimming precisions as  
25 CFLs. However, we expect CFLs in most cases will

1 be able to meet this need, and in other cases we  
2 propose that an additional compliance option would  
3 be to use LEDs, either as a primary or secondary  
4 light source to provide these very low levels of  
5 dimming in these fixtures.

6 So I'll move on to the second point we  
7 would like to make. The proposed regulation  
8 requires CFLs shipped with a portable fixture to  
9 meet the minimum energy efficiency requirements  
10 established for 2008 by Energy Star. On December  
11 2 of this year a new Energy Star specification,  
12 Version 4.0, goes into effect.

13 We would like to suggest that to avoid  
14 any ambiguity which may arise that the specific  
15 Version 4.0 should be referenced. And I  
16 understand there may be some legal issues here but  
17 we would like to recommend that Version 4.0 be  
18 specifically referenced so there is no ambiguity.

19 And just to show, there are different  
20 minimum efficiency requirements right now from the  
21 one that is currently in effect, 3.0, and the one  
22 that goes into effect in December, which is  
23 Version 4.0. And there's also several new  
24 categories in the new Energy Star specs. So just  
25 to highlight that there is a difference.

1           And then the last point I am going to  
2           make is more of a minor point. But we noted that  
3           with the compliance option that allows fixtures to  
4           be shipped with either a CFL or an LED lamp, we  
5           noted that the term LED lamp has not yet been  
6           defined. We suggest that this may be a definition  
7           that could be added to avoid any potential  
8           ambiguity.

9           And then on a related note. We noted  
10          that it may be just a typographical mistake but  
11          page eight of the Express Terms mentions an LED  
12          Source and we think the intended phrase may be LED  
13          Light Source.

14          So that concludes my comments. Thank  
15          you very much.

16          PRESIDING MEMBER ROSENFELD: Thank you.  
17          Any comments? Yes, you are coming up.

18          MR. POPE: Thank you. Ted Pope with  
19          Energy Solutions for PG&E.

20          Gary, I just want to clarify. I think I  
21          heard you say a primary argument for the exemption  
22          for the wall-mounted fixtures was because non-  
23          dimming lamps may be installed in fixtures. Is  
24          that what you meant to say? Because I feel like  
25          that is pretty much the same issue for all.

1                   MR. FLAMM: Yes, I believe that was,  
2                   that was one of the arguments. One of the  
3                   arguments that resonated with me was that if they  
4                   sold the lamp -- they are typically dimmable. The  
5                   ALA information was that they are typically  
6                   dimmable so they would have to sell that with a  
7                   dimmable compact fluorescent. And they are used  
8                   in bedrooms and around the crib and, you know, a  
9                   more intimate setting. And if the consumer  
10                  replaced that dimmable compact fluorescent with a  
11                  non-dimmable compact fluorescent in their  
12                  ignorance, that it could be a hazard, it could be  
13                  a safety hazard. So that was one of the  
14                  arguments.

15                 MR. POPE: Thanks for clarifying that.

16                 MR. LINSTONE: I am Clark Linstone. I  
17                 am the Chief Financial Officer of Lamps Plus,  
18                 which is the largest independent lighting chain in  
19                 California and the United States. I am also here  
20                 as Chairman of the Government Affairs Committee of  
21                 the American Lighting Association and a member of  
22                 its Board of Governors and I am formally  
23                 representing ALA at this hearing.

24                 Our President, Dick Upton, who was able  
25                 to attend last time is still Washington DC where

1 we are concluding our annual conference. So he  
2 wanted me to apologize for his not being available  
3 today.

4 First of all I would like to express our  
5 appreciation to everybody involved in this  
6 process, PG&E, Energy Solutions, the CEC.  
7 Particularly Gary Flamm in orchestrating all our  
8 conversations since our last discussion of this,  
9 of this topic. After several months of work and  
10 many phone calls, conference calls, which Amanda  
11 alluded to, we feel very comfortable with the  
12 final proposal as it is presented, which includes  
13 five options that Gary went through.

14 We believe that the inclusion of the CFL  
15 prepackaged with the lamp will substantially  
16 achieve not only the goals set in terms of new  
17 product, but also by introducing the bulbs to the  
18 household that they will use similar CFLs in other  
19 products around the house. So we think actually  
20 there will be a almost multiplier effect as a  
21 result of providing the lamp with the product.

22 In terms of the exemptions, which I know  
23 we have had some discussion of and I will touch on  
24 briefly. Specifically this adjustable swing-arm,  
25 wall-mount portable. Which on the surface may

1        seem like it doesn't make sense, a wall-mount  
2        portable lamp. By UL definition a portable lamp  
3        is anything that has a plug on it. So while it is  
4        affixed to the wall it is actually plugged into an  
5        outlet, hence falling under the portable luminaire  
6        definition.

7                Typically where this product is used is  
8        for almost like background light. I'll give you  
9        an example. Perhaps in a children's room. It  
10       might serve as a night light. It's a very -- So  
11       typically this product, as was indicated, has a  
12       dimmer. It usually needs to function at very low  
13       levels if it is to fulfill that function.

14               And one of the concerns that the  
15       American Lighting Association had was that as far  
16       as we know today, we do not have the ability to  
17       dim as far down a dimmable fluorescent as is  
18       probably required by the product today. We are  
19       concerned in general about replacement. The fact  
20       that this would be on the wall.

21               The other exemption. One of the things  
22       that was mentioned also was using LED. Because  
23       this is general area light, in terms of the way we  
24       see it typically used, we don't see the LED option  
25       as being very workable for this particular

1 scenario.

2 The other exemption in terms of artwork.  
3 In talking with the people -- and what we are  
4 talking about here is similar to the wall  
5 luminaire. It is a picture light which is plugged  
6 into an outlet. And their concerns were in terms  
7 of using CFLs, was the effect of UV light on the  
8 actual artwork. It's a very specific product.

9 And in terms of actually finding product  
10 that would serve its basic function today, we  
11 don't know of any that exists that would be able  
12 to both take a compact fluorescent and also not  
13 produce any negative effects to the artwork.

14 So that's why in our discussions with  
15 the staff and in our conference calls we thought  
16 these two exemptions were appropriate. But all in  
17 all we are very positive in terms of the whole  
18 process and support the recommendations put forth  
19 by the CEC staff.

20 PRESIDING MEMBER ROSENFELD: That makes  
21 a lot of sense. I think I wasn't listening to  
22 your last sentence. I thought the exemption for  
23 the artwork was because of the focusing  
24 properties. Are you saying that CFLs put out more  
25 ultraviolet than --

1           MR. LINSTONE: I should say, for the  
2 focusing in terms of how the light --

3           PRESIDING MEMBER ROSENFELD: Right.

4           MR. LINSTONE: It doesn't focus, the  
5 CFL. That's a point that I should have included.  
6 But also in talking with at least the people we  
7 were talking to in terms of picture light. That  
8 there is more UV that would affect the artwork.

9           PRESIDING MEMBER ROSENFELD: From a CFL.

10          MR. LINSTONE: From a CFL, yes.

11          PRESIDING MEMBER ROSENFELD: I didn't  
12 know that. Okay, thank you.

13          MR. LINSTONE: Thank you.

14          PRESIDING MEMBER ROSENFELD: Ted, you  
15 are looking, hovering.

16          MR. POPE: I apologize. Ted Pope,  
17 Energy Solutions for PG&E.

18                 I just had a e-mail from Steve Nadel.  
19 And maybe it's too far out of order but he has  
20 been trying to respond on the metal halide issues  
21 that came up and apparently wasn't able to get  
22 through.

23          MR. RIDER: The operator hasn't said  
24 anything but I can --

25          MR. POPE: I don't know. Is it

1 possible?

2 PRESIDING MEMBER ROSENFELD: Sure.

3 MR. POPE: He was about to leave in five  
4 minutes, if he hasn't left. If he is still here  
5 maybe he has something he wants to say. If not, I  
6 apologize.

7 MR. RIDER: He is not on the line.

8 MR. POPE: Sorry, I guess we missed him.

9 PRESIDING MEMBER ROSENFELD: You can't  
10 get Nadel?

11 MR. RIDER: What's that?

12 PRESIDING MEMBER ROSENFELD: You can't  
13 get Nadel?

14 MR. RIDER: He is not on the line any  
15 longer.

16 PRESIDING MEMBER ROSENFELD: Okay.  
17 Well, that seems to bring us to miscellaneous  
18 public comment.

19 Gary, as far as you are concerned we are  
20 through with portables.

21 MR. FLAMM: We are done with this, yes.  
22 Is that what you asked?

23 PRESIDING MEMBER ROSENFELD: Yes.

24 MR. FLAMM: Yes, we are done with that.

25 PRESIDING MEMBER ROSENFELD: Any general

1 public comment?

2 No miscellaneous public out there.

3 Well staff, Bill Pennington, any wrap-  
4 up?

5 MR. PENNINGTON: Is Melinda here to wrap  
6 up?

7 MS. MERRITT: I'm here.

8 MR. PENNINGTON: Okay, good.

9 PRESIDING MEMBER ROSENFELD: Melinda.

10 MR. PENNINGTON: She was invisible to  
11 me.

12 MS. MERRITT: I just checked, there are  
13 no more blue cards so I am assuming that there is  
14 no more public comment either on the proposed  
15 amendments to the regulations or on the Draft  
16 Environmental Impact Report. So that closes our  
17 public meeting.

18 I would just remind individuals of the  
19 end dates for the 45-day review period for the  
20 amendments to the regulations is October 13. The  
21 end date for comments on the Draft Environmental  
22 Impact Report is October 6. And we look forward  
23 to your cards and letters.

24 MR. PENNINGTON: I might just say that  
25 we always appreciate early submittals on comments.

1 That enables staff not to have just a big down  
2 time here waiting for the comments.

3 PRESIDING MEMBER ROSENFELD: Yes, the  
4 earlier the better. The earlier and briefer and  
5 more explicit the better.

6 Commissioner Pfannenstiel has some  
7 parting comment.

8 MR. PENNINGTON: Yes, it is in fact a  
9 parting comment. I want to thank all of the  
10 parties who have been working so hard on this. I  
11 think there's been a lot of cooperation, a lot of  
12 collaboration, and I know that we have whittled  
13 down the areas of disagreement in the last few  
14 months. And that was from a lot of -- I know the  
15 staff, Gary and others on the staff have worked  
16 really hard on this and I think very effectively.

17 So to the extent we can keep working  
18 that way and whittling down the differences among  
19 us. It is incredibly helpful to us when we have  
20 to ultimately make the decision to have the  
21 benefit of everybody working together as a team.  
22 So thank you for that.

23 PRESIDING MEMBER ROSENFELD: And I was  
24 happy to hear Cheryl say that we need more  
25 meetings at the Lighting Center where we all get

1 together and share one another's point of view.

2 But that whittling process seems to work very  
3 well. Which reminds me, Mike Siminovitch, before  
4 everybody else disappears, we were going to talk.

5 So I guess that's it, thank you. We are  
6 getting through a little early, that's good.  
7 Thanks very much.

8 (Whereupon, at 2:53 p.m., the Public  
9 Hearing was adjourned.)

10 --oOo--

## CERTIFICATE OF REPORTER

I, RAMONA COTA, an Electronic Reporter,  
do hereby certify that I am a disinterested person  
herein; that I recorded the foregoing California  
Energy Committee Public Hearing; that it was  
thereafter transcribed into typewriting.

I further certify that I am not of  
counsel or attorney for any of the parties to said  
workshop, nor in any way interested in outcome of  
said workshop.

IN WITNESS WHEREOF, I have hereunto set  
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